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ORIGINAL ARTICLES.

DISINFECTANTS.

PRELIMINARY REPORTS OF THE COMMITTEE ON DISINFECTANTS OF THE AMERICAN PUBLIC HEALTH ASSOCIATION.

X.

HYDROGEN PEROXIDE.

BY GEORGE M. STERNBERG, M.D.,

SURGEON U. S. A.

SINCE Angus Smith, in 1869, proclaimed his belief that peroxide of hydrogen was to be the disinfectant of the future, sanitarians have been waiting for chemists to devise some method by which this agent may be manufactured at a sufficiently low price to bring it into general use. The absence of any corrosive or poisonous properties or of any objectionable odor, and the promptness with which this agent destroys volatile putrefactive products and arrests putrefactive decomposition, seemed to make it the disinfectant *par excellence*. But we no longer accept the arrest of putrefactive decomposition or the destruction of bad odors as evidence of disinfecting power, and the question which here concerns us relates to the power of this agent to destroy germs.

The following experiments have been made by Dr. Duggan and myself, with a solution of hydrogen peroxide prepared under the direction of Prof. Albert R. Leeds, a member of the Committee on Disinfectants. When first received from Dr. Leeds, this solution contained 4.8 per cent. of H_2O_2 and 5 per cent. of sulphuric acid. At the expiration of a month the amount of hydrogen peroxide was again estimated by Dr. Duggan, and was found to be 3.98 per cent. Five weeks later the proportion was reduced to 2.4 per cent. The constant escape of oxygen at the temperature of the laboratory is shown by a continuous flow of minute bubbles from the interior of the liquid to its surface. Tested upon broken-down beef-tea, when the proportion of H_2O_2 was 3.98 per cent. (say 4 per cent.), the solution was found to be active in the proportion of 30 per cent., while it failed in the proportion of 20 per cent.; that is to say, 1.2 per cent. of H_2O_2 in two hours time destroyed all of the organisms present in the broken-down beef stock, and 0.8 per cent. failed to do so. Tested upon a pure culture of *B. anthracis* containing spores, the same solution was effective in 20 per cent. (0.8 per cent. $H_2O_2 = 1 : 125$) and failed in ten per cent. Tested upon a pure culture of a micrococcus, obtained from a drop of blood drawn from the inflamed area in a case of vaccinal erysipelas, the same solution was effective in the proportion of 10 per cent. (0.4 per cent. of $H_2O_2 = 1 : 250$), and failed at 5 per cent. In experiments made at a later date (March 28th) when the strength of the solution was reduced to 2.4 per cent. *Micrococcus tetragenus* was destroyed by 10 per cent. (0.24 per cent. $H_2O_2 = 1 : 400$), while the same amount failed to destroy the vitality of the micrococcus of pus—pure culture obtained from an acute abscess—showing a difference in the resisting power of these two organisms.

As the solution used in these experiments contained five per cent. of sulphuric acid, which in a previous series of experiments[1] has been shown by the writer to be fatal to the micrococcus of pus in the proportion of 1 : 200, it is evident that a failure to destroy the vitality of the same micrococcus in 1 : 400 does not give this solution any very notable advantage over a simple aqueous solution of sulphuric acid. The germicide power of the solution used, as tested by its action upon spores, is, however, considerably above that of sulphuric acid alone. Dr. Duggan has ascertained that to destroy all of the organisms in broken-down beef-tea requires 18 per cent. of H_2SO_4, whereas 30 per cent. of our solution of H_2O_2, containing 5 per cent. of sulphuric acid (= 1. 5 per cent. of H_2SO_4), is effective.

These experiments indicate that unless chemists can furnish us solutions which are more concentrated and which will keep better, we are not likely to derive any great practical benefit from the use of hydrogen peroxide as a disinfectant.

As an antiseptic our solution was found, by Dr. Duggan, to be effective in the proportion of 1 : 5000 (of H_2O_2, not of the dilute solution), and to fail in the proportion of 1 : 10,000. This does not correspond with the results reported by Miquel, who places hydrogen peroxide — *eau oxygénée* — above mercuric chloride as an antiseptic. In his table of the minimum amount of different antiseptic agents which will prevent the putrefaction of one litre of neutralized beef-tea the quantity of H_2O_2 required is stated to be 0.05 gramme (= 1 : 20,000), while the amount of mercuric chloride required to accomplish the same results is given as 0.07 gramme (= 1 : 14,285.)

SIMPLE FORMS OF APPARATUS FOR ESTIMATING THE QUANTITY OF UREA IN THE URINE.[2]

BY AUSTIN FLINT, JR., M.D., LL.D.

AT the request of Dr. William H. Greene, of Philadelphia, I have the honor to exhibit to the Association his apparatus for the estimation of urea. The request is contained in the following letter from Dr. Greene, and the description of the apparatus was sent to me by Dr. Greene, with the apparatus itself:

I see that you have favorably noticed a ureometer exhibited by young Dr. Doremus to the New York

[1] American Journal of the Medical Sciences, April, 1883.

[2] Read before the New York County Medical Association, May 18, 1885.

County Medical Society on the 16th March. As you may possibly have noticed in a reclamation of priority, which I published in THE MEDICAL NEWS of the 4th inst., I consider that Dr. Doremus has acted either ignorantly or with but a slight appreciation of the ethics of scientific men in seeking to appropriate credit for an apparatus of which the only simplicity—the absence of stopcocks—is due to myself. At the same time he does not appear to comprehend the importance of corrections for temperature and pressure even in approximate measurement of gases.

I send you by express a ureometer, which please accept with my compliments, and compare with that of Dr. Doremus.

I have made no advertisement of the instrument. My deceased friend, the late Adolph Wurtz, of Paris, presented for me its description to the Académie des Sciences. Greiner and Friedrichs began manufacturing it immediately afterwards, and, at my request, sent me seven. This one, which I send you, is the third that I have presented, the other two having been given to personal friends.

I would esteem it a favor if you would either read this note or exhibit the apparatus to the New York County Medical Society.

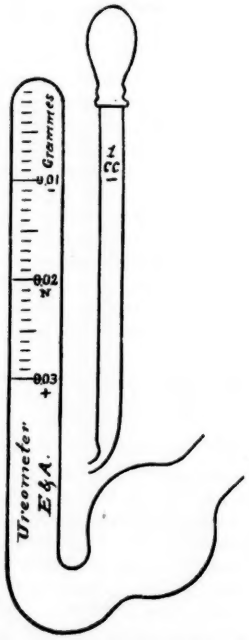
Very respectfully yours,
WM. H. GREENE.

3225 SANSOM STREET, PHILADELPHIA, April 18, 1885.

"A SIMPLE APPARATUS FOR ESTIMATING UREA. By W. H. GREENE. (Fresenius, *Zeitschrift für Analyt. Chemie*, xxiii. Heft ii. S. 275.)

"A simple apparatus for estimating urea with sodium hypobromite, which has been suggested by W. H. Greene, is intended for clinical purposes, and admits of rapid work. Its essential part is the glass vessel *a* (see Fig. 1), whose under portion, holding about 60 cc., has

FIG. 1.



a side-tube, while the upper cylindrical portion, of from 20–25 cc. capacity, is graduated.

"To make the determination, a measured quantity of urine is introduced by means of the pipette, whose end has been bent, into the glass vessel, which has been filled with hypobromite and placed in a saucer to catch the ley that escapes.

"The nitrogen produced collects in the graduated cylinder. It is advisable to choose a pipette whose fine end allows 3–4 cc. of urine to escape in a minute.

"When the decomposition is complete, a bent funnel-tube is inserted in the tubulus, and this is filled with hypobromite to the same level as that in the graduate. The reading of the volume of nitrogen is then made. If it is desired to do away with the funnel-tube, the entire apparatus may be sunk in water until the level of the hypobromite corresponds with that of the outside water.

"Quantity of urea in a litre of urine =

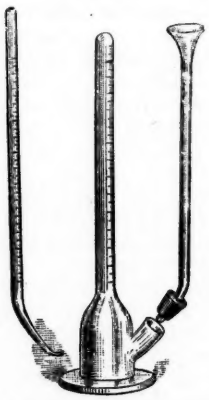
$$\frac{1000\, v\, (h - h')}{760 \times 354.3 \times a\, (1 + 0.00366\, t)}$$

"v = volume of gas.
"h = barometric pressure in millimetres.
"h' = tension of aqueous vapor in millimetres at temperature t.
"a = volume of urine employed."

To enable members of the Association who were not present when the apparatus constructed by Dr. Doremus was presented, to make a comparison between the two methods, I take the liberty of exhibiting again Dr. Doremus's process. It is proper, however, to state that Dr. Doremus makes no claim to originality, as is shown by the following extract from the *Journal of the American Chemical Society*, vol. vii., No. 3:

"The general form of the apparatus shown in the cut (Fig. 2) is not new. It was in use in Prof. Kuehne's

FIG. 2.



laboratory in Heidelberg in 1871, where it was employed in the detection of fermentable sugars by introducing some yeast in the liquid, and setting the tube in a warm place. The carbon dioxide evolved collected in the long arm.

"Since then it has been given in works on animal chemistry."

The long arm of the tube is filled to a point marked = with a solution of sodium hydrate, six ounces to a pint of water, and one cc. of bromine is then added by means of the pipette. This extemporaneous mixture, for each analysis, is made in the apparatus itself, for the reason that the hypobromite is liable to deteriorate. Enough water is then added

to fill the long arm and bend of the ureometer. One cc. of urine is then passed slowly into the apparatus by means of the pipette, and the quantity of gas liberated is read from the scale, which gives the actual proportion of urea, without calculations or the use of tables. The determination can thus be made in nearly the time that has been required for its description.

Each of the two forms of apparatus is designed to present a convenient and rapid application of a well-known method for the quantitative determination of urea. There seems to be no ground for controversy as regards originality or priority; and practitioners will undoubtedly select the apparatus which is most convenient.

Dr. Doremus presented, by request, at a previous meeting of the Association, the form of apparatus which he uses in teaching, as possibly the simplest and most convenient for medical use. The graduation was made experimentally, at a temperature of 65° Fahr., with a uniform volume of liquid, so that, these simple conditions being fulfilled, the estimates are sufficiently close for all practical purposes, and "corrections for temperature and pressure" are unnecessary.

The advantages of Dr. Doremus's apparatus over the one proposed by Dr. Greene seem to me to be the following:

1. The apparatus has but two parts, which are easily filled and cleaned.

2. The mixture of the sodium hydrate with the bromine is made in the tube, and the irritating fumes of bromine are avoided.

3. The bulb receives the excess of liquid when the urine is added, and no additional receptacle is needed.

4. The pipette is more easily filled by means of the rubber nipple than by suction with the mouth.

5. The determination is made directly, by simply reading from the graduation, and no calculation is necessary.

In neither of the two forms of apparatus is there any new principle involved, and they are to be compared merely from the point of view of simplicity and convenience of application.

The strictures made by Dr. Greene, accusing Dr. Doremus of having "acted either ignorantly or with but a slight appreciation of the ethics of scientific men," seem to me to be uncalled for. The advantages of both instruments commend themselves on their simple merits to practitioners, who will, of course, select the one which seems the better adapted to their use. This question I leave to the members of the Association for their decision individually. For myself, I had seen a description of Dr. Greene's apparatus before I made my remarks at a previous meeting; and I simply commended what I conceived to be improvements on all previously described forms of apparatus, without comparing any one form with another.

A CASE OF MIXED-CELLED SARCOMA OF THE SPINE,

OCCURRING IN THE PRACTICE OF DR. WM. PIERSON, OF ORANGE, N. J.[1]

Reported by J. W. STICKLER, MD., OF ORANGE, N. J.

W. S. H., æt. 30, American, married; no children; temperate; no suspicion of specific disease. With the exception of his last illness, was never seriously sick. Family history good.

Nine months ago the patient complained of pain in his back, especially when he walked, or in any way used his lumbar muscles. It was thought at that time that he had lumbago and was treated accordingly. He absented himself from business for a few weeks to secure rest, and then resumed work, but daily, after returning from the city, he experienced pain in the lumbar region, and found it necessary to give his back as much rest as possible.

On October 28, 1884, Dr. Wm. Pierson first saw the patient. At that time he complained of very severe pain which followed first the course of one sciatic nerve, then of the other, the pain lasting two weeks, seven days in each thigh.

During this period the patient remained in bed. A very careful examination was made, but there could be discovered no tenderness on palpation at *any* point, neither was there deformity of the spine. Locomotion was not interfered with at that date, although muscular action caused slight pain. At the termination of two weeks he was relieved of pain, but discovered that he could not use his lower extremities. The anal sphincter was paralyzed, the vesical remained intact. The motor paralysis was associated with anæsthesia of the skin below the first lumbar vertebra. An examination of the spine at that date did not elicit any pain or tenderness, or show any deformity. One month later the vesical sphincter became paralyzed, the urine ammoniacal, and showed on examination mucus and pus. His appetite remained good, and digestion did not seem to be materially impaired.

About December 15th a tumor, similar in outline to a circular cyphosis, was observed in the lumbar region. It extended from the last dorsal to the second lumbar vertebra, and was *not angular* as in caries. On either side the spine, the tumor was smooth upon its surface, and gave on palpation an ill-defined sense of fluctuation. The needle of an ordinary hypodermic syringe was inserted into both sides of the tumor, but nothing but blood was drawn, as was shown to be the case when the fluid was examined microscopically.

The tumor increased in size laterally, and after a lapse of two weeks the exploratory needle was again inserted. A small quantity of colorless fluid was withdrawn which upon microscopic examination showed a few disintegrated cells, a few blood disks, and oil globules, *but no pus cells*. At that time Dr. Pierson made a diagnosis of "malignant growth." His opinion was based upon absence of pain, angular curvature, pus, and such constitutional symptoms as

[1] Read before the Orange Mountain Medical Society.

are associated with suppuration, also upon the probability that the paralysis which occurred early, was due to pressure of a new growth upon the cord. He likewise thought that the posterior even curvature of the affected portion of the spine was due to an expansion of the vertebræ occasioned by growth of the tumor. The bilateral bulging, he thought, was due to an extension of the growth on either side the spine.

It was the opinion of a few of the many physicians who were kindly asked to see the patient, that the case was one of "spinal caries." The diagnosis made by Dr. Pierson was verified at the post-mortem examination. Emaciation, which began with the appearance of the tumor, had become extreme, notwithstanding the patient ate largely of various kinds of food.

About the middle of January, a tumor was detected in the abdomen, on the left side, directly in front of the tumor behind, and apparently continuous with it. Palpation of this tumor did not occasion pain, neither did it elicit any fluctuation, nor give any information concerning its character, save that it seemed to be, when very carefully examined, a part of the growth behind. During February the patient became greatly exhausted and emaciated, the tumor increased rapidly in size, the vital forces giving away degree by degree until March 8, 1885, when he quietly died.

It will be well to state just here, that during the entire course of his sickness he ate with good relish, and slept well. It is also a noticeable fact that he was not given a single dose of any anodyne medicine, there being scarcely any pain.

Post-mortem Examination.—Rigor mortis well marked; emaciation extreme; color of skin, pale yellow with here and there a greenish coloration, due to chemical changes. When the abdominal cavity was opened, but little fat was seen in the omenta, and many of the mesenteric glands were enlarged and quite soft. When the intestines were removed, a bi-lobed tumor was seen to occupy about the posterior half of the abdominal cavity, extending from the last dorsal vertebra to the ileo-pectineal line on either side. It had a common covering which in the central line was close to, and at some points in apposition with the vertebræ. This covering, which was tough and tense, bound the growth firmly to the sides of the thoracic cavity, in the axillary lines, and to the linea ileo-pectinea. On the left side, the covering of the tumor was quite adherent to the capsule of the kidney, although it was separable from it by careful manipulation. On the right side the kidney was less adherent. To the touch the tumor was semi-fluctuating, and when accidentally punctured, was found to contain a small quantity of serous-looking fluid. It was found impossible to separate, by dissection, the tumor from its various attachments.

The left ureter was traced from the bladder across the anterior surface of the tumor, between it and the kidney, till it was seen to enter at the hilus. This ureter presented no dilatations. The right ureter was likewise traced from the bladder to the kidney, and at a point about four inches from the bladder was dilated to about three times its normal diameter; it contained clear urine.

The tumor was opened on both sides of the spine, and was found to contain a soft cheesy mass, most consistent near the spine, *very* soft, almost fluid, at the centre of the sac, on either side the spine. In color it was pale yellow. When the covering which lay over the spine was removed, it was found that the last dorsal and first lumbar vertebræ were so disorganized, and so completely detached from all ligamentuous connection, that they were easily removed. The body of the last dorsal vertebra was almost entirely destroyed, and about two-thirds that of the first lumbar was gone. The interarticular fibro-cartilages were normal in appearance. None of the cord substance could be recognized at the level of the two vertebræ just alluded to.

The left kidney was enormously enlarged (four by six inches), and overlaid the abdominal tumor. Its capsule was glistening in appearance, and was quite tense. It did not fluctuate on palpation. When cut into, the capsule was found to be thickened and infiltrated. In that portion of the kidney near the capsule there were many cheesy-looking masses of various sizes. The kidney consisted chiefly of a pultaceous mass, yellow on its surface, but presenting many red points at and near its centre.

The right kidney was slightly enlarged, and presented pale yellowish markings in the cortical portion. It also contained five small masses in the medullary portion, which had a cheesy appearance, and a chalky consistency. The lungs were normal; the liver paler than in health, otherwise natural in appearance.

Microscopical Examination.—The tumor which was connected with the spine consisted of a great variety of cells, viz., giant cells, spindle-shaped cells, small and large round cells, and stellate cells.

The cortical portion of the left kidney showed an almost entire obliteration of the Malpighian bodies, the tubules and vessels. Instead of the above normal elements, many small spherules could be seen. Some of these spherules were about as large as white blood-globules, others about one-third larger, and some were considerably smaller, about the size of red blood-globules. The pultaceous mass which filled the central cavity of the kidney, consisted almost entirely of spherules, such as have already been referred to. An examination of the right kidney showed a tumefaction of its epithelial elements, a dilatation of the convoluted tubes, and an apparent thickening of their proper tunic. The Malpighian tufts seemed to be much dilated, and had a fatty appearance. Some of the tubules were clogged with swollen epithelium, casts, and oil globules, and all the tubes were in contact. The five small collections of cheesy and cretaceous looking substance consisted of uric acid crystals, phosphate of lime, and spherules such as were found in the left kidney.

Dr. Wm. H. Porter, of New York, to whom I sent a number of sections of the sarcoma, agrees with me concerning the character of the tumor, and thinks "composite sarcoma" a good name for such growths.

MEDICAL PROGRESS.

NEW MODE OF DRAINAGE EMPLOYED IN COLD ABSCESS.—DR. HOUZEL. at the last meeting of the French Surgical Congress, described a new method of drainage

employed in cold abscess, by which the pus is evacuated as fast as it is secreted, and the dressing of the abscess is not only not soiled, but escapes altogether contact with the pus. The plan is as follows:

The suppurating cavity, no matter what may be its nature, is thoroughly cleansed and rendered aseptic. Two tubes are then introduced into the cavity as deeply as possible—in contact, if the cavity is small, divergent at a point beneath the skin if the suppurating cavity is larger. The calibre of the tubes must depend upon the abundance of suppuration. Before they are introduced, they must be thoroughly fenestrated so far as they are engaged in the suppurating cavity. At the point of exit from the wound the two tubes are united and surrounded with iodoform, and a collar of charpie slightly elevated, in order to form a dressing for the cutaneous wound. Over the whole is placed a dressing of carbolized gauze or antiseptic wadding, and Mackintosh perforated so as to allow the exit of the two tubes, which extend about six or eight inches beyond the dressing, according to circumstances.

The tubes are then introduced carefully into the perforations of a rubber cork, until the cork reaches the level of the dressing, and finally the tubes are introduced into a flat rubber bladder, containing a small quantity of carbolic acid or chloride of zinc.

The two cavities are by this means connected, air is excluded, and pus is voided without soiling the dressing. Profuse suppuration is no longer a source of inconvenience, and asepsis is perfect. The tubes, when once a flow has been established into the rubber vessel, act as siphons and gently aspirate the pus from the cavity of the abscess, which is thus drained much more freely than by the ordinary method, while its immediate admixture with a disinfectant renders antisepsis still more complete and as perfect as possible.

ENCEPHALOID SARCOMA OF THE RIGHT OVARY; LAPAROTOMY; DEATH.—PROF. C. GALLOZZI, in the *Gazzetta degli Ospitali* (supplement), April 5, 1885, records an operation of laparotomy, performed on a girl 13 years of age, for sarcomatous degeneration of the right ovary.

The history of the case revealed no hereditary tendency to the disease, which first manifested itself two years previously by pain in the right iliac fossa. The condition of the patient was that of general malaise. There was, however, no disturbance of the digestive or respiratory function. The abdomen was enlarged, but there was no marked prominence nor alteration in color or venous engorgement. The circumference of the body at the level of the umbilicus was 31.6 inches.

Palpation revealed the presence of a tumor, ovoidal in form, of uneven surface, and moderately elastic, extending from the left costal arch into the basin of the pelvis, from which it could be raised by light pressure from below upward, though such manipulation was painful to the patient. The tumor had a transverse diameter of eight inches, and a longitudinal diameter of 9.2 inches. Vaginal examination of the uterus was impossible. Diagnosis was made of sarcoma, probably involving the right ovary.

The twenty-second day after the patient's admission to the hospital, operation was performed at the request of her father. Median incision was made, extending from the umbilicus to the symphysis pubis, and on opening the peritoneum a large quantity of serous fluid escaped, tinged slightly with blood. The tumor, which was sarcomatous, was found adherent to the great omentum at numerous points, and had for its point of origin the right ovary. In order to facilitate the operation the incision was enlarged. It now became manifest that, owing to adhesions, the whole tumor could not be removed, except with immediately fatal result, and accordingly the abdomen was closed; portions of the tumor being left in the abdominal cavity in two localities, one the size of a fist on the left of the spinal column, another, somewhat smaller, in the cavity of the pelvis. Antiseptic dressings were applied, and the patient during the following day and night was in a satisfactory condition, with only a slight rise of temperature (99.5° F.), but febrile symptoms were further developed, and death from peritonitis ensued a day later.

ORCHITIS PRODUCED BY STRAIN; ATROPHY OF THE TESTICLE.—DR. FEUILLON reports an interesting case of orchitis produced by strain, and followed by atrophy of the testicle.

The patient, a man, aged 45 years, married, healthy, denied ever having had any venereal disease, and that previous to the injury related below, both testicles were normally situated in the scrotum.

Two months previous to his entrance into the hospital, while attempting to lift a bar of iron, he suddenly experienced pain in the left testicle, so severe that he fainted. No direct blow was received, nor, indeed, was there any trace of violence.

The patient affirmed that he then found the testicle drawn up into the left groin. It was very painful, and at the same time affected the corresponding side and abdominal region. Vomiting, obstinate constipation, and swelling, were also experienced for a measurable period. These symptoms finally abated, but the testicle remained fixed and painful in its new position. After three weeks the pain in a great measure disappeared, but at once returned when the patient attempted to rise from his couch. In this condition he came to the hospital. The testicle was found firmly fixed at the external inguinal ring; it was atrophied and reduced to about one-fifth of its normal size. All efforts to release it were ineffectual, and while the least manipulation caused extreme pain, the patient also suffered from all the symptoms of ilio-lumbar neuralgia. This condition having been persistent for three months, castration was decided upon as the only means of relief. The tunica vaginalis was found adherent to the adjoining tissues by fibrous bands, and a portion of the epididymis had disappeared within the inguinal canal.

The operation was concluded without difficulty, and the patient made rapid recovery, being able to walk without difficulty in less than four weeks. Examination of the testicle showed an almost complete destruction of the tubules of the testicle, which were encroached upon by dense peripheral fibrous tissue. The epididymis likewise had completely lost its normal structural peculiarities, and was composed almost entirely of cicatricial tissue.

The possibility of the occurrence of this accident in

the manner related has been questioned, but the present case removes all doubt on the subject. Retraction of the testicles from other causes has been previously noticed by other writers, among whom are Kocher and Lewin, to whose papers the report of M. Feuillon makes an interesting addition.—*Annales des Maladies des Organes Génito-Urinaires*, April, 1884.

LARGE URETHRAL CALCULUS IN A WOMAN PAINLESSLY REMOVED BY INJECTION OF HYDROCHLORATE OF COCAINE.—M. JULES BATUAD, in the *Gazette Médicale de Nantes*, April 9, 1885, reports a case of urethral calculus removed from a woman in whom the operation was rendered entirely painless by the use of hydrochlorate of cocaine. The patient was 67 years of age, and complained of extreme pain and burning on urination, together with the appearance of blood at its completion.

Vaginal examination revealed the presence of an extremely hard tumor situated at the bulb of the urethra, larger and of the shape of an almond. On introducing a catheter it came in contact with a hard body, and urethral calculus was diagnosticated. On account of the age of the patient, the administration of chloroform was considered dangerous, and it was determined to resort to hydrochlorate of cocaine. Previous to the operation the urethra, which was very much contracted, was dilated with Huguier's dilator. On operating, a solution of cocaine, 1 to 10, was then made, and the vulva, anterior portion of the vagina, and the meatus, painted freely. A portion of the solution was then injected into the pocket containing the calculus, with the effect of rendering the parts completely anæsthetic.

The operator, M. Chéron, introduced a curved trocar into the meatus, and passed it through the utero-vaginal septum immediately in front of the calculus. A platinum wire was then introduced and connected with a galvano-cautery brought to a red heat. No pain was experienced by the patient, and in four minutes the stone was extracted without loss of a single drop of blood.

The calculus weighed 310 grains, and was one and two fifth inches in length, about one inch wide and four-fifths of an inch thick.

The wound was washed with boracic solution, and iodoform dressing applied, and kept in position by appropriate bandages. The sphincter of the bladder was intact, and the patient suffered from no complications, urethral fever, or secondary hemorrhage. The case is interesting:

1. On account of the relative infrequency of large urethral calculi in women.

2. Owing to the complete anæsthesia obtained by the application of a 1 to 10 solution of cocaine in an impressionable patient.

3. As illustrating the advantages of the galvano-cautery in such operations, and on account of the complete preservation of the function of the sphincter of the neck of the bladder after its use.

FEMORAL NEURALGIA; RESECTION OF THE ANTERIOR EXTERNAL CUTANEOUS NERVE, RESULTING IN CURE.—DR. W. HAGER reports a case of femoral neuralgia, cured by excision of the anterior external cutaneous nerve.

The patient, a young woman with no history of previous nerve affection, received, at a dance five years previously. a blow upon the left hip. The blow—a kick—was so powerful that in attempting to parry it she sprained her right ankle. From this she recovered, but there remained a continual dull pain in the hip, which never abated. Occasionally, after great exertion, the pain assumed a lancinating character. As a result of the constant pain the patient had become pale and emaciated, and complained of sleeplessness. No treatment was in the least beneficial, and though quinine, iron, arsenic, salicylic acid, and hot baths had been tried, no relief was obtained.

Dr. Hager first saw the patient September 13, 1884. Examination revealed extraordinary hyperæsthesia of the external portion of the thigh, especially in the region of the anterior superior spinous process. The least motion was painful, owing to the extreme sensibility of this region. Attempt made to rise from a sitting posture by means of the left leg was futile, resulting only in excessive tremor of the limb, and its falling powerless to the floor. No disease or swelling of the periosteum was recognizable, and pressure upon the great nerve trunks caused no unusual pain. At the second examination, made September 29, Dr. Hager discovered a thin cord-like structure in the region above referred to, which, under pressure, was painful in the extreme. The course of this cord corresponding to the anatomical position of the anterior external cutaneous nerve convinced Dr. Hager that the neuralgia had its origin in a diseased condition of the nerve, and he decided upon its resection. The operation was accordingly performed, and two and a half inches of the diseased nerve tissue were removed, and the wound closed with three catgut sutures. The day succeeding the operation there was complete anæsthesia of the region supplied by the nerve, and also of the entire outer third of the thigh as far as the knee. The dull pain, moreover, disappeared, and has not since returned. Careful treatment by rest and massage was instrumental in relieving the remaining symptoms, and the patient declares herself perfectly cured.—*Deutsche medicinsche Wochenschrift*, April 2, 1885.

ERYSIPELAS AND SEPTICÆMIA.—In a discussion upon the nature of erysipelas held at a recent meeting of the French Academy of Medicine, M. HERVIEUX expressed the view, based upon observation and experience, that:

1. Identity evidently exists between erysipelas and septicæmia, whether the latter be puerperal or surgical.

2. That erysipelas being only an expression of septicæmia, may on occasion produce the latter just as septicæmia may produce erysipelas.

2. That erysipelas demands therefore from the surgeon the same remedial measures as are required in septicæmia.

M. Trélat, in discussing the views of M. Hervieux, said that the identity of the two diseases, as yet, is not a recognized scientific fact, and that science has not yet determined the nature of the agent or microbe which produces erysipelas. Whatever may be the differences or analogies which exist between the agents producing erysipelas and septicæmia, the fact remains that erysipelas ordinarily does not pursue the course of septicæmia, but, nevertheless, though the question is still undecided, it is true that all antiseptic precautions are also precautions against erysipelas.—*L'Union Médicale*, April 23, 1885.

THE MEDICAL NEWS.

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SATURDAY, MAY 30, 1885.

THE TREATMENT OF TUBERCULAR ABSCESS.

AMONG the interesting topics which were discussed at the recent Congress of French Surgeons was that of the management of cold, strumous, or tubercular abscess, an account of which may be found in the weekly medical periodicals of Paris for April. Although there was some difference of opinion as to the best mode of treatment, the discussion disclosed a great advance over the old method of leaving such collections of pus unopened until they were ready to evacuate themselves spontaneously, or of resorting to aspiration. As will be seen, the majority of the speakers were in favor of effecting riddance of the wall of the abscess, or of the so-called pyogenic membrane, and effecting union by the first intention.

Cazin resorts to extirpation of the wall, which is rendered easy by the method practised by Pozzi for the ablation of cysts. The fluid having been evacuated by an aspirator, melted paraffine is injected into the sac, and its solidification promoted by the ether spray. The sac is then readily dissected out, the parts approximated by sutures, and a drain inserted. Bouilly also advises extirpation of the sac.

Pozzi, on the other hand, prefers attacking the wall of the abscess with the spoon, actual cautery, and iodoform, while Socin resorts to incision, scraping, and removal of the greater portion of the sac, with subsequent suture and drainage. Of 25 cases of tubercular abscess connected with caries of the vertebræ, treated in this way, 5 were completely cured, 16 recovered with fistulæ, and 4 were failures, and of 20 connected with disease of the ribs, or sternum, 12 were cured. Of 25 idiopathic cases, 19 were cured, and 6 failed. Bœckel agrees with Socin, and reports 5 cures out of 7 examples of psoas abscess. Access to the sac is secured by an incision from two and a half to three inches long parallel to Poupart's ligament, and a second incision over the femoral prolongation of the sac, and free drainage is obtained by an opening made in the loin.

Houzel favors ablation of the sac, and recommends a special form of drainage, which we think possesses no particular advantage. Verneuil, however, has abandoned extirpation and scraping of the sac in favor of an injection of an ethereal solution of iodoform, which permits the deposit of the remedy, on the evaporation of the ether, in all the recesses of the sac. He states that he has recently successfully treated in this way a cold abscess which contained six pints of pus, and which extended from the knee to the diaphragm.

In the present state of our knowledge we believe that the proper treatment of tubercular abscesses may be summed up as follows: Extirpation of the sac when it is small and the operation is practicable; early, free, and dependent incision, with irrigation with a proper solution of corrosive sublimate, and adequate drainage, in spinal abscesses; or the injection of iodoform dissolved in ether or glycerine, in similar cases, when the patient cannot remain in bed, or when, for other reasons, aseptic incision and drainage are impracticable. In this connection we may recall the fact that the iodoform treatment originated with Mikulicz, and that Verneuil has never done him the justice to give him the credit for it.

A RECENT MALPRACTICE SUIT.

THE beauties of the jury system are well illustrated by a trial recently concluded in Cincinnati; and the fact is once more brought before us that care and skill, and the conscientious performance of even the plainest duties may fail to protect a surgeon when placed at the mercy of "twelve good men and true;"—good enough, perhaps, in the ordinary relations of life and true to their sympathies, but too often utterly incapable of forming a correct judgment on any subject beyond the limited range of their experience.

It would be difficult to imagine a plainer case of practice than the one that was made the basis of a recent suit against Drs. Williams, Ayres, and Sattler, of Cincinnati, and no hospital surgeon passes a day without incurring at least equal risk. The case is briefly as follows: A boy, sixteen years of age, while at work in a machine shop, was struck in the left eye by a piece of iron, and was brought, about an hour afterwards, to the office of these gentlemen for treatment. Intense congestion of the eye had already appeared, there was blood in the anterior chamber, and hemorrhage in the vitreous prevented ophthalmoscopic examination, the iris was tremulous,

and the lens partially dislocated, the ball had lost all tension, and a wound in the sclerotic showed plainly the entrance of the foreign body. The course to be pursued in such a case is too evident for discussion. Supposing it to have been possible to remove the foreign body, so much injury had been inflicted that it would not have been safe to let the eye remain. Even when much less mischief has been done, the attempt to remove foreign bodies from the vitreous may be considered questionable. In a discussion of this subject at the last meeting of the American Ophthalmological Society, Dr. Knapp expressed himself as follows: "It is a very nice thing to attempt their removal, and occasionally we succeed, but, from my own experience and a study of the literature, I have sometimes thought it would be best to take all such eyes out, without any scruple. I am sure that by proceeding in this way, the greatest good would be done to the greatest number." The three surgeons, against whom the suit was brought, examined the eye and advised enucleation, but the boy's parents positively refused to allow it.

After a few weeks of treatment, the patient ceased to attend and commenced a course of migration from one surgeon to another. During a period of more than two years he was under the care, at different times, of four other surgeons, all of whom urged enucleation in vain, until at last it was consented to when too late to save the other eye. The foreign body was found, at some distance from the point of entrance, encapsulated in the ciliary region.

One would have supposed that such a case as this would be too strong for the smartness of any lawyer or the stupidity of any jury, and that no attack could make any impression upon its defences. Nevertheless, there was not only a vigorous and prolonged campaign, but a partial victory. The jury, after deliberating for two days, were unable to agree, but stood eight for the plaintiff and four for the defendant. $20,000 damages were demanded.

The prosecution first charged neglect to remove the eye, but a change of base soon became necessary, and the plea was made of neglect to remove the piece of iron. It was supported by the quotation of a case recorded in Mauthner's work on *Sympathetic Diseases of the Eye*, in which a small piece of iron was removed from the wound in an eye not seriously injured; and by the deposition of an entirely unknown self-styled oculist of New York, who detailed what he would do in a hypothetical case arranged by the lawyers. This, with an eloquent peroration on the poverty of the plaintiff and the wealth of the defendants, did the business for eight of the jurymen.

A new trial will probably take place, and it will be interesting to all who are liable, at any day, to be placed in the position of our Cincinnati *confrères* to watch the result. It is a comfort to remember that even if twelve men can be found to equal the stupidity of the eight in this case, there still remains one possibility to redeem the jury system from hopeless absurdity—a righteous judge may set aside a monstrous verdict. This was the ending of an equally groundless and shameless suit brought against a well-known ophthalmic surgeon of Philadelphia, some years ago; but not until he had endured nearly two years of persecution. Fortunately, such suits, if bravely met, usually in one way or another come to naught; but the loss of time, the interference with work, the expense, the worry and anxiety—who can estimate but those who have been the victims?

PODALIC VERSION—A NEW INDICATION FOR IT.

IN the May number of the *Edinburgh Medical Journal*, in an interesting paper upon podalic version, DR. S. LAWRENCE reports that, in 500 cases of labor, he resorted to podalic version forty-three times, once for puerperal convulsions, twice in arm presentation, twenty-two times on account of obstruction of the pelvic brim, and eighteen times because of insufficient uterine action threatening tedious labor.

A brief consideration of the results of podalic version in the cases of contracted brim may prove instructive. In nine of the twenty-two, premature labor was induced about the end of the eighth month; all of the children were born alive, and two of the mothers died. In the remaining thirteen cases, labor occurring spontaneously at or about term, there were nine living and four dead children. Now, without having the very great faith in statistics which George Eliot attributed to Mr. Buckle—who looked for the time when superstition would be banished, and statistics reign forever and ever—it seems to us that the facts Dr. Lawrence mentions in relation to version in contracted brim show, so far as they show anything, that this operation is admirable when premature labor is induced, but fails if labor occur at full term; in the former case the delivery can be effected so much sooner—the head being smaller, and more easily moulded—that the probability of the child being born alive is very great. On the other hand, delay in delivery of the head being not rarely a cause of death in pelvic presentation, even when the birth canal is in every respect normal, how much more likely is such an event to occur if the canal be narrowed.

Dr. Lawrence had lost three mothers out of the twenty-two cases of podalic version; that is, the mortality was 1 in 7. Sir James Simpson, who so strongly advocated podalic version in narrowed brim, claimed that the maternal mortality in craniotomy was 1 in 6. It will thus be seen that Dr. Lawrence's statistics are only very slightly better, that podalic version is very little superior to craniotomy; but, when we add the

saving of infant life, the value of the method becomes greatly enhanced. Still, the question is not always between podalic version and craniotomy, for it may be asked, might not the forceps have saved as many lives as podalic version did in these cases?

In the eighteen cases in which podalic version was resorted to because of inefficient uterine action, all the children were born alive, and all the mothers made excellent recoveries. Certainly this showing is excellent, but ought the new departure to be imitated? That podalic version is useful in such cases is proved by Dr. Lawrence's results. But here, as in life generally, the application of a rule or principle to a particular case or condition presents the difficulty. How do we know in a given case that a labor will be tedious, or may become powerless? How often are the prognostications of the obstetrician put at naught, and a labor that has threatened to become lingering, changing its character, rapidly goes on to a favorable termination! It is easily seen that one may needlessly resort to this treatment in some cases.

Further, the plan is liable not only to mistake in application, but also to abuse. Impatient obstetricians, finding how certain a means they have for ending a labor and saving their time, may resort to podalic version unnecessarily, and a needless operation is liable to be an injurious one.

We must believe that this new indication for podalic version ought to be very fully considered in all its aspects before being adopted or, on the other hand, rejected.

THE SANITARY ASPECTS OF CABLE ROADS.

THE construction of cable roads by the plan adopted in Philadelphia suggests an inquiry into the possibility of the conduits causing an offensive nuisance by the decomposition of refuse matter collecting in them. The main feature in the construction of these roads is an underground passage-way of iron for carrying a steel cable, by which the cars are to be drawn over the streets. It is about one foot wide at its base with sides gradually curving upward a distance of about two and a half feet to a central slot about three-fourths of an inch wide, and opening at the level of the street. The capacity of this channel is about equal to that of a small sized sewer.

As might have been expected, dust and mud are constantly forced through the slot and filthy washings from the street surface flow through this opening during every rainfall, and form accumulations within the conduits. To get rid of liquid matter, connections have been made with the sewers at numerous places, and traps are made use of to prevent the escape of sewer air. Manholes have also been constructed at close intervals for the purpose of cleaning out the accumulations of solid matter, as well as for making examinations and repairs. It is to the interest of the company that the conduits shall be kept as free as possible from extraneous matter; it is to the interest of the public that they shall be kept free from filth and foulness. How well these objects will be carried out remains to be seen.

It would appear from the limited observation which has thus far been permitted and by reasoning from the conditions likely to occur, that unless the filthy accumulations are frequently removed, and the ducts as frequently cleansed by the scouring action of a large body of water, a very objectionable nuisance will be created by the escape of foul air upon the streets. Unless the traps upon the sewer connections are made effective, and thus maintained, the conduits will become as noisome as the sewers themselves.

The means to be adopted to prevent the occurrence of a nuisance are therefore the frequent and complete removal of solid matters, the frequent flushing of the surfaces of the conduits by an effective body of water, and the maintaining of traps on all sewer connections in good working order. Careful attention to these three points will, without doubt, do much to prevent any just cause of complaint against the cable road from a sanitary standpoint.

LITHOLAPAXY AND LITHOTOMY IN INDIA.

FROM a paper contributed to the *Lancet* for February 28th, and March 7th and 14th, 1885, we find that DR. FREYER, surgeon to H. M.'s Bengal Army, has performed 291 operations for stone in the bladder, which were attended with some remarkable results, and which are interesting as recording the experience of a single operator in a special field of surgery.

That litholapaxy is a most successful procedure in India is shown by Freyer's 111 cases. Of 108 cases in adult males, 4, or 3.7 per cent., died, while in the 3 examples in female children below the age of five, the patients were running about the following day, without the slightest inconvenience. The safety of litholapaxy is moreover shown by comparing it with lateral lithotomy, 50 operations in adult males having been attended with 9 deaths, or a mortality of 18 per cent., in the hands of Freyer, or a mortality of 11 per cent., based upon 2730 cases which occurred in six presidencies or provinces of India, in 1882. In male children or boys, on the other hand, Freyer's 132 cases of lateral lithotomy were uniformly successful, a result which is without precedent.

These results confirm the rule now recognized everywhere, except perhaps in Germany, of resorting to litholapaxy in adult males and females of all ages, and lateral lithotomy in males below the age of puberty, a rule which should not be departed from, unless it be in those exceptional cases in which epicystotomy is clearly indicated.

SPECIAL ARTICLE.

PRELIMINARY REPORT OF THE SECOND SERIES OF SESSIONS OF THE GERMAN CHOLERA CONFERENCE.

THIRD SESSION, MAY 4, 1885.

IN July last a Cholera Conference was held at the Imperial Health Office at Berlin, at which Professor Virchow presided, and a full report of which appeared in THE MEDICAL NEWS of August 23 and 30. It will be remembered that Dr. Koch opened the proceedings with an address upon his researches in India and Egypt on the origin and dissemination of the disease. At the close of the Session, it was resolved to meet again this year, and the Conference was held on May 4, 5, 6, and 7.

There were present, besides the earlier members, Prof. v. Pettenkofer of Münich, and Dr. Günther, as associates of the former Imperial Cholera Commission, and the Director of the Imperial Health Office, Dr. Köhler. The Conference entered into the discussion of the first question on the schedule of the proceedings to wit: *The demonstration and discussion of the experimental data obtained since the preceding session concerning the bacteria of cholera, with especial reference to their qualities of duration.*

PROF. KOCH opened the discussion by referring to the results published since the last meeting of the Conference. He held that the arguments of the opponents (Finkler and Prior, Klein, and Emmerich) of the bacillar origin of cholera had been critically refuted, and that from confirmed experiments the conclusion had been reached that the comma-bacillus is present nowhere else than in cholera, and that in this disease it is never absent. In proof of this conclusion, he cited the results of his examinations of cover-glass preparations of the choleraic secretion of seventy-five patients sent from Calcutta, and he showed that they were identical with a series of pure cultures of the comma-bacillus from France, Italy, and Germany. He considered it established that the comma-bacillus is exclusively a concomitant of cholera, that it may easily be distinguished from all other forms of bacteria, and is of positive value in diagnosis.

He then gave a description of his experiments upon guinea-pigs with pure cultivations. For these experiments five c.cm. of a five per cent. solution of soda, and twenty minutes afterwards ten c.cm. of meat infusion containing comma-bacilli were injected into the stomach; immediately afterwards laudanum was injected into the abdominal cavity (one c.cm. for every two hundred grammes of weight). The animals were thereby narcotized for one-half hour or an hour, but afterwards fully recovered. The following day they appeared ill; their hair was rough; there was weakness of the hinder extremities and of the muscles of the back, and they died in from one to three days. Dissection showed infiltration of the small intestine, which, as well as the stomach and cæcum, was filled with a colorless alkaline flaky fluid which contained a pure culture of comma-bacilli. Experiments of this kind were performed with eighty-five guinea-pigs.

Moreover, the use of the solution of soda and opium has been found to render the animals more easily susceptible to the pathogenic action of other bacilli; and the same experiments, but in a less degree, succeeded with the bacillus of Finkler, and that of Denecke. But in these latter experiments other phenomena were manifested. Thus, Finkler's bacillus caused a true decomposition, as is evidenced by the odor of the contents of the intestine. Therapeutic experimentation upon animals injected with the comma-bacillus has to the present time only shown that large doses of calomel, or the administration of naphthalin prolonged the life of the animal one day.

The comma-bacillus is quickly destroyed by drying and by certain disinfectant agents—*e. g.*, solution of carbolic acid of a strength of one-half per cent. To the observations upon men—which may be considered as infection-experiments (Klein, Macnamara)—Dr. Koch added some new data. One of the one hundred and fifty physicians who attended the course at the Health Office was attacked with the disease. In his dejections the comma-bacilli were found, and pure cultivations were made.

Concerning the vitality of the comma-bacillus, investigations have shown that in spring water it is maintained for thirty days, in sewerage seven days, in privy wells twenty four hours, upon damp linen three to four days, in the harbor water of Marseilles (according to Nicati and Rietsch) eighty-one days, and upon agar-agar longer than one hundred and forty-four days. This peculiarity of duration in active condition was not recognized as belonging to the spores of other bacilli.

PROF. V. PETTENKOFER declared himself not thoroughly convinced by the statements of Dr. Koch—since but little is proved by the experiments upon animals, and much better results had been obtained by Emmerich, who brought from Naples to Münich the pure culture of the comma-bacillus. The manner in which Dr. Koch infected guinea-pigs gave no explanation as to how human beings are affected by cholera. He could not acknowledge the comma-bacillus as the special cause of cholera, but considered it more probable that cholera induced certain conditions which favor the development of bacilli, and thus its uniform presence during the disease is explained. The laws of the epidemic manifestations of cholera were strained in the assumption that the comma-bacillus is the exciting cause of the disease, for whereas the bacillus is destroyed by dryness, in Lower Bengal the dry season directly favors the disease. Then, admitting that the comma-bacilli are present only in the intestine and not in the organs, it must be assumed that they produce an intensely active poison in the choleraic intestine, which has but little power of absorption; but in the pure cultures made at Münich such a condition has not been recognized. Cholera does not appear to be a combination of infection and intoxication, but a purely infectious disease. In the future, it remains to be decided whether Emmerich's bacilli can be regarded as the excitant of the disease. These were found in the different organs, as was shown by pure

culture, but were invisible in microscopical sections. Animals infected with them died with symptoms of cholera, having been seized with vomiting and diarrhœa. However the verdict as to the bacilli may be decided, there must first be demonstrated an agreement with the laws of epidemics. If those sick with cholera are not directly infected, the cholera fungus cannot be the cause of the disease, and if cholera is dependent upon season and locality, then also a cholera fungus cannot determine it.

DR. B. FRÄNKEL called attention to the fact that the only bacterium of the intestine which is morphologically similar to the comma-bacillus, is a comma-shaped vibrio occurring in the mouth. Like many other investigators, he had endeavored to cultivate this organism, which he had shown Dr. Koch before the previous Session of the Congress. He could positively affirm that this special form will not grow in gelatine culture.

DR. KOCH, replying to the observations of Prof. v. Pettenkofer, pointed out that the methods employed by Emmerich were open to objection and to error. It is entirely without analogy that a bacillus should exist and be secondary to a disease with which it was solely associated. The dry season of the year, Koch maintained, in no wise makes Calcutta dry, but diminishes the rich water-supply of the city. In contrast to the negative results reached at Münich to obtain a poison from pure cultures of the comma-bacillus were experiments not yet concluded, which he was making, giving positive results. As yet there has been no recognized case in which cholera, like anthrax and smallpox, has been spread by dry conditions, and experience was opposed to there being a permanent state of the bacillus.

FOURTH SESSION, MAY 5TH.

PROF. V. PETTENKOFER, in resuming the discussion, pointed out that the supposition that the comma-bacillus, or Emmerich's bacillus, is the cause of cholera, leaves unexplained many phenomena of the disease—*e. g.*, its latency in winter, and the subsequent renewed activity of the disease and its recognized dependence upon season and locality. Continuing, he compared the cholera infection with that of malaria, which although communicable by inoculation, still depends upon the soil. He insisted that a distinction should be observed between artificial and natural infection, and declared himself not convinced by the results of experimental infection that epidemics of the disease arise in the same manner as experimental infection.

PROF. VIRCHOW gave, as his opinion, that experiments with animals are not absolutely required, inasmuch as not all the diseases common to mankind are transmissible to animals. The symptoms present in animals infected with Emmerich's fungus, may easily be mistaken for those of cholera, while there are many substances which can produce precisely similar conditions. As long ago as 1847, by the injection of putrid material into the blood of dogs, he produced not only similar anatomical changes, but also excited vomiting, diarrhoea, and other symptoms of cholera, thereby producing parallel manifestations, but he had guarded himself against considering the two conditions identical. In Koch's experiments the opium may have prevented diarrhœa and vomiting, and therefore the experiments were in a certain sense defective, and their repetition is necessary. Emmerich, who otherwise had used extreme care, took the living venous blood, and therein cultivated his bacillus, and perhaps has obtained an accidental form of bacillus.

An argument in favor of Koch's bacillus is the fact that it is found constantly in the intestine, which is the especial seat of cholera. The secretion of the stomach is not always acid, and possibly dyspeptic conditions may render a previous preparation of the animals superfluous. Even in the diseases long recognized as dependent upon fungi—*e. g.*, "muscardine" or potato disease—the question cannot yet be answered why the epidemic arises and why it disappears, and in spite of the knowledge gained respecting morbific fungi, but little progress has been made in explaining the cause of epidemics. Although the comma-bacillus had no permanent form, yet it had a certain duration of life, for Dr. Babesch, who is pursuing his investigations in the Pathological Institute, has found, after six months diligent labor, a special form of vegetation, composed of broad, longitudinally striated spirilla, that was very durable. They originate in low temperatures, and quickly change into short comma-shaped forms. The bacillus shows distinct forms under varying external conditions. The vesicular forms described by Ferrán as evolved from the spirilla, are disintegration products and are sterile. The length of the life of this bacillus is sufficient to explain the slow progress of the disease from year to year. In other directions the discovery of this bacillus was a positive gain to knowledge in the surer recognition of the facts concerning the disease. It was not opposed to what experience has shown, as pointed out by the excellent labors of Pettenkofer, as to the dependence of the disease upon season and locality, but speculation must not be too deeply entered upon while the practical side of the question is lost sight of.

DR. HIRSCH considered that investigations in connection with the pathogenesis and prophylaxis of the disease are deserving of at least as much attention as the study of its bacteriology.

After some further remarks by Drs. Koch, Pistor, v. Pettenkofer, and Virchow, the discussion of the first question closed.

The second point for discussion was, *The Spread of Cholera by Human Intercourse, by Pilgrims, and Ships.*

PROF. KOCH opened the deliberation concerning this question by emphasizing the fact that cholera is spread by pilgrims in India, and cited additional examples of long-continuing ship epidemics, and showed how unreliable were the accounts given by sailors.

PROF. V. PETTENKOFER, in reply, attributed little importance to pilgrimages and railroad travel in the spread of cholera, and urged caution against assuming that cholera is spread by travellers.

After the close of the meeting, Prof. Koch gave a demonstration of dead and living guinea-pigs which had been infected with the comma-bacillus.

FIFTH SESSION, MAY 6TH.

The discussion of the second question was continued in conjunction with that of the third, *The Influence of Soil, Air, and Water upon Cholera.*

DR. GUNTHER cited instances to prove that intercourse between individuals does not always produce cholera, but that the occurrence of an epidemic is dependent upon the influences of time and place.

PROF. HIRSCH replied that human intercourse did not invariably cause the spread of cholera, but that every epidemic has such communication for a cause.

PROF. KOCH exhibited the results of the demonstrations made the day previous. Of the fourteen inoculated guinea-pigs only two had survived, and these also showed symptoms of infection. He suggested that possibly the same condition obtains with the cholera fungus as has been observed in other plants, namely, that sometimes especially favorable conditions for their existence are found temporarily; but, nevertheless, they afterwards die for lack of these conditions.

Dr. Koch brought forward examples to show that an acquired immunity from cholera may exist. We cannot expect in all cases to recognize such condition directly, but must be content to establish it indubitably in a certain number of cases. The fact was of the greatest importance in view of the prophylactic measures to be taken by the authorities. The long duration of cholera upon ships cannot be explained, if the soil is considered the only requisite for its outbreak, but it could be accounted for on the view of transmission from man to man, for the incubation period of cholera is short.

PROF. GÜNTHER said the incubation period of cholera lasted usually four days, but that cases were known to him in which the period had been from ten to seventeen days.

DR. MEHLHAUSEN cited instances of the spread of cholera by disbanding troops; and DRS. HIRSCH and EULENBERG gave similar instances of its spread by rafts.

PROF. v. PETTENKOFER did not deny the fact of an acquired personal immunity after an attack, but asserted that it was the local immunity which determined the occurrence of an epidemic. The disposition of a locality for an epidemic consists in part of local constant conditions, in part of local transitory (seasonal) factors. He did not deny at all the influence of traffic upon the spread of cholera, but this alone does not suffice to call forth an epidemic, and for this reason season and place must be entered as factors. In what manner the infective germ is taken from land upon shipboard he does not know. The simple shipment of a cholera patient does not suffice to cause the disease to spread.

PROF. VIRCHOW said that the supporters of the contagion theory of cholera do not assume that the transference must be directly accomplished from man to man; that is proved by infection through cholera linen, and still more by the pure cultures in which the propagation and sustenance of the cholera germs take place outside the body. It is certainly shown by pure cultures that it is not the earth wherein the germs thrive, and to the present time no case has been known where the existence of the cholera germs in the soil was proved. Notwithstanding this, he does not deny its possibility, but only disputes the exclusiveness of the soil theory. Experiment and observation of separate cases yield more certain conclusions than whole epidemics, which were only considered on a large scale. He had personal knowledge of the transference of cholera from man to man in 1871 and had published a conclusive observation in his collected works. Reference was made to an instance in which, while but one case of cholera existed in a hospital, three men were attacked who had assisted in the care of this patient. Upon board of ships transferences of cholera occur which are in nowise connected with the soil. As an example, he cited the transatlantic steamer Franklin. Although there is no doubt that the spread of cholera does not depend upon a poison, or germ arising from the soil, or is connected with an infection arising therefrom, still what is as yet known of the history of the comma-bacillis does not exclude the possibility that the disease may not, under certain circumstances, be contained and propagated in the soil. He, therefore, saw no difficulty in coming to an agreement with Prof. v. Pettenkofer, provided he abandon his exclusive standpoint of view.

PROF. v. PETTENKOFER said that he originally considered the contagion of the disease as of the highest importance, but that observation of the varying behavior of cholera, according to time and place, had compelled him to ascribe to these special importance.

DR. MEHLHAUSEN cited instances observed in Thorn in 1873, of undoubted transmission of cholera from person to person.

The next session was held May 7, and the report of the discussion will appear in our next issue.

SOCIETY PROCEEDINGS.

ILLINOIS STATE MEDICAL SOCIETY.

Thirty-fifth Annual Meeting, held at Springfield, May 19, 20, and 21, 1885.

(Specially reported for THE MEDICAL NEWS.)

TUESDAY, MAY 19TH.—FIRST DAY.

THE Society was called to order, at ten o'clock, by THE PRESIDENT, DR. D. S. BOOTH, of Sparta. After prayer, by Rev. F. H. Musgrove, an

ADDRESS OF WELCOME

was delivered by His Excellency, GENERAL RICHARD J. OGLESBY, Governor of the State of Illinois. His remarks were brief and felicitous. He welcomed the members of the Illinois State Medical Society to the Capital as gentlemen, citizens, and physicians. He congratulated the people of the State that so many representative medical men could be found willing to leave their homes, with absolute unselfishness, to consult together for the public good. To physicians, more than to any other body of men, are entrusted the health and life of the people. He recognized in the science of medicine and surgery a field of infinite possibility as regards development. It is the function of these annual meetings to lift the subject above illiberal and envious criticism, and establish it upon a more enduring basis

than that of empiricism. It is true that the science of medicine and surgery is not as exact as geometry —a necessary consequence from the complex character of the phenomena. It is, however, absolutely the only guardian standing between society and the effects of disease and accident. There are dubious matters in every department of human activity, but in the practice of medicine and surgery that doubt assumes enormous importance, as human life is the issue at stake. Uncertainty in diagnosis and treatment—and every physician must at times be puzzled—only increases the dignity of the profession, since the mental agony experienced by an honest, conscientious man, under these conditions, is greater than in any other pursuit. This sense of moral responsibility must be greater in the physician than in the pure scientist, lawyer, or divine.

DR. E. P. COOK, of Mendota, replied in appropriate terms to the address of welcome.

THE PRESIDENT, DR. D. S. BOOTH, of Sparta, delivered the usual

ANNUAL ADDRESS,

in which he discussed, in a humorous way, a variety of topics. He said that at the ninth annual convention of the American Academy of Medicine, at Baltimore, 1884, a committee was appointed to memorialize our national legislative bodies, with reference to the appointment of State Examining Boards in Medicine. The Illinois State Legislature should be memorialized in a similar way by the members of the Illinois State Medical Society.

A compliment was paid to female physicians and to one of their important functions in the repression of criminal abortion. The subject of female education was discussed at length, and many allusions were made to Dr. Goodell's excellent essay upon the topic. The germ theory of disease, the dangers of specialties, and sanitary science, received attention.

AFTERNOON SESSION.

DR. DAVID PRINCE, of Jacksonville, presented the

REPORT ON GYNECOLOGY.

In the treatment of uterine hyperplasia and plastic exudates within the pelvic cavity, he recommended that, in addition to vaginal irrigation with hot water, as suggested by Dr. Emmet, the interrupted current (faradic) be employed. A variety of gynecological instruments were exhibited.

DR. CHARLES WARRINGTON EARLE, of Chicago, presented

THE REPORT ON OBSTETRICS.

He referred, in detail, to progress during the past year in various departments of the subject.

Anatomy and physiology; the ring of Bandl. Many valuable contributions to our knowledge of the condition of the cervix uteri during pregnancy and labor have been recently made. Dr. W. W. Jaggard, of Chicago, reviewed the literature of this subject in a paper read before the Obstetrical Section of the American Medical Association, at New Orleans. A marked tendency to revert to the original doctrine of Roederer and Stein, Sr., has been evinced by modern investigators. The researches of Carl Braun, Wilhelm Braune, and Ludwig Bandl, supported as they are by many clinical and pathological observations, go far to establish the fact that Schroeder's contraction ring, Spiegelberg's obstetrical internal os, Lah's pelvic-inlet stricture, Ebell's clinical or mechanical os, the ring of Bandl and Küstner, are different names for the true, anatomical internal os; that the cervix does not persist in a relatively unchanged condition until the end of pregnancy, but that, during the later months of utero-gestation, the entire supravaginal portion is usually drawn up into the cavity of the uterus.

Therapeutics. Dr. J. Suydam Knox, of Chicago, had recently read a paper entitled, "The Influence of Cimicifuga Racemosa upon Parturition," before the Chicago Gynecological Society (see THE MEDICAL NEWS, April 11, 1885), which demanded careful consideration. Dr. Knox claimed very decided oxytocic properties for black cohosh. His conclusions were based upon the analysis of one hundred and fifty cases.

Dr. Svanberg, of Sweden, had recently written a paper upon the external use of chloroform in labor. A flannel saturated with equal parts chloroform and olive oil was applied over the surface of the abdomen, and all the benefits derivable from inhalation of the anæsthetic were secured. The subject was worthy of thorough investigation. Cocaine had been used in cases of rigid os with benefit.

Dr. Earle had written a paper, published in 1874, upon the function of electricity in post-partum hemorrhage. He referred to the excellent paper by Dr. Bater, of Texas, appearing in the April number of the *American Journal of Obstetrics*, in which the value of electricity in pregnancy and parturition is maintained. Dr. Earle agreed with Dr. Bater that electricity (faradic current) may profitably be employed in the following conditions: 1. Vomiting of pregnancy; 2. Accidental hemorrhage; 3. Induction of premature labor; 4. Aid to natural labor pains; 5. Oxytocic; 6. Prophylactic against post-partum hemorrhage.

Among antiseptic agents, the bichloride of mercury is, at present, the most popular; it has supplanted carbolic acid; real danger of mercurial toxæmia exists.

Pathology of midwifery. The association of albuminuria and eclampsia had been observed from the time of Dr. C. W. Lever, in 1843, up to the present day. Recent observers are inclined to believe that puerperal convulsions are not necessarily uræmic. He endorsed fully the treatment, recently advocated by Dr. H. D. Fry, of Washington, D. C. (see January number, *American Journal of Obstetrics*). Dr. Earle had used, with marked benefit, apocynum cannabinum.

Occipito-posterior positions, in vertex presentations, are of more frequent occurrence than old English text-books would lead one to believe. Leishman, in particular, was in error upon this subject. The mechanism of labor is difficult for the reasons that there are waste of uterine force, less resistance to the head, longer distance to traverse, and unfavorable adaptation of the presenting part. The etiology is a comparatively unknown subject.

In the management of such cases it is almost always necessary to resort to forceps. Dr. Edward Warren Sawyer, of Chicago, had read a paper upon this subject before the American Gynecological Society, at its last meeting in Chicago. Dr. Sawyer had seen forty-two cases of occipito-posterior position in vertex presentations—thirty-nine right, three left. Dr. Sawyer has been compelled to change the position of the occi-

put by bimanual manipulation, or by the application of forceps, in almost every case.

Face presentations. Schatz's method of correcting face presentations—transforming them into vertex—by flexion of trunk and allowing occiput to descend, is worthy of recommendation.

Application of the forceps in breech presentations. Dr. Earle had successfully applied the forceps in cases of breech presentation, before he became aware that the attention of the profession was directed to the subject.

Functions of the membranes in labor. Dr. Henry T. Byford, of Chicago, in the discussion of the possibility, probability, and utility of the preservation of the membranes from rupture until they dilate or aid in dilating the vulvo-vaginal orifice as well as the cervix, had advanced a most valuable method of prophylaxis against cervical, vaginal, and perineal tears.

Immediate operation for lacerated perineum. Dr. Alloway, of Montreal, had simplified a very complicated operative procedure, by the advocacy of the introduction of a single suture.

Treatment of retained membranes. Dr. Earle would select a course intermediate between immediate interference and pure expectancy. In labor, at term, it is necessary to distinguish between simple retention of a detached placenta, and retention on account of pathological adhesions. In the former case, Credé's method of expression fulfils every indication; in the latter case, it is necessary to introduce the hand into the cavity of the uterus, and sever the adhesions. While he recognized the danger of retention of the secundines in abortion, premature labor, or labor at term, he could not assent to the proposition of that gentleman who advocated the inversion of the uterus, and the peeling off of membranes and placenta in extreme cases.

Extrauterine pregnancy. Dr. Earle referred to the greater frequency of ectopic gestation than was formerly believed. He thought the plan of treatment advocated by Dr. Thomas the most rational method: 1. In the early months of pregnancy, fœtus living, its life should be destroyed by the interrupted current. 2. Fœtus alive at the expiration of the full term of utero-gestation, laparotomy is indicated. 3. Fœtus dead and the normal period of utero-gestation passed, the plan of treatment should be expectant.

DR. DAVID PRINCE, of Jacksonville, thought that the affusion of cold water upon the abdomen is a more simple and effective method in the treatment of post-partum hemorrhage than electricity. He narrated the history of a case of post-partum hemorrhage, occurring in an eclamptic patient, treated by the affusion of cold water upon the surface of the abdomen, with recovery.

DR. C. TRUESDALE, of Rock Island, always advised the immediate operation for laceration of the perineum, but thought a very exact approximation of the surfaces necessary in order to avoid the formation of pockets in which pus and the lochia might collect. An imperfect closure of the rent is productive of more harm than benefit, and he did not think one suture adequate.

DR. WENGER, of Gilman, is in the habit of rupturing the membranes when the *os uteri* is fully dilated. The dilatation of the cervix is the sole function of the membranes during parturition. He thought the configuration of the head, when the membranes are not ruptured, is less favorable to its passage through the parturient canal.

DR. F. E. WAXHAM, of Chicago, had treated over one hundred cases of abortion and had only used the curette once. He had never lost a case. If the secundine cannot be removed by the finger, he allows them to remain *in situ*, and irrigates the cavity of the uterus twice daily with large quantities of carbolized water at a temperature that causes the patient no pain. Ergot is also exhibited under these conditions.

DR. KREIDER, of Springfield, exhibited an improvised rubber coil, mounted on cardboard, for mediate irrigation by Petitgaud's method.

DR. T. M. MCILVAINE, of Peoria, read a paper entitled,

MEDICINAL AND NON-MEDICINAL THERAPEUTIC AGENTS.

Between the optimists, who had unlimited faith in the action of remedies, and the pessimists, who had no faith at all, the majority of medical men take their position. Common sense is all important. All stereotyped rules and formulas must be departed from at times. He had recently treated a desperate case of typhoid fever. The patient rejected everything exhibited *per orem* but continually craved beer. The prognosis was so unfavorable that Dr. McIlvaine finally acceded to the patient's demands. Nine and one-half gallons of beer were consumed in the seven days following, and an uninterrupted convalescence ensued. A woman, with pelvic cellulitis, had been able to retain very little food, and that of a fluid character, for a period of ten weeks, urgently demanded saur kraut. One evening she ate six or seven ounces of raw kraut, the next day a larger quantity of boiled kraut, and after that no nausea was experienced, and the patient went on to full recovery. Professor Austin Flint, Sr., in a paper published in the *Transactions of the New York State Medical Association* had taken substantially the same ground upon this important subject.

DR. E. P. COOK, of Mendota, would divide therapeutic agents—that is, drugs—into three classes.

1. Drugs, through which *positive medication* is possible. These drugs are few in number, and embrace the specifics.

2. Drugs, which may be *rationally* exhibited, but in regard to the action of which it is impossible to speak dogmatically.

3. Drugs, in regard to whose action we have actually no knowledge, are referable to "moonshine" therapeutics, and to transcendental schools of medicine.

DR. N. S. DAVIS, of Chicago, said he thought there are few medical men who believe that drugs can *cure* all or most diseases. Such extravagant statements do injustice to the profession, lessen its dignity in its own ranks, and in the outside world. Dr. Chambers's statement that all disease is a retrograde movement, and that all treatment should be of a supporting character, was simply an extravaganza. Sedatives are indicated in pathological exaltation and increased functional activity, just as stimulants should be exhibited in depression. The nearer we keep to the true representation of facts, the better for ourselves and the community at large. Therapeutics is the most important and difficult of all the medical sciences, and the one to

which specialties have been of severest injury. In the enthusiasm roused by the germ theory of disease, old clinical methods of the observation of the course and cure of disease have been sadly neglected. He had no objection to putting salt on the microbe's tail, but he objected to the killing of the patient in the process. It is better to allow the microbe to kill the patient than in mistaken zeal to kill the patient in the hunt after the microbe.

DR. T. F. WORRELL, of Bloomington, referred to the modern school of therapeutics as being one of polypharmacy. He had grown up in the old Anstie school, where few remedies with known actions were exhibited. Recently he had seen a prescription from a celebrated physician in which eight distinct physiological actions were united—purgative, diuretic, diaphoretic, alterative, emetic, tonic, refrigerant and antipyretic were united in accord with shotgun principles. He still used *veratrum viride* in pleurisy and pneumonia, and accomplished good. Among emetics, he knew of nothing better and more harmless than ipecac. Among purgatives, rhubarb, calomel, blue mass and senna retained their old places. He had recently observed the foolish combination of strychnine in a laxative pill, upon the absurd theory that peristaltic action would be increased. Bleeding had been rejected *in toto* by the modern therapeutist—a most unwarrantable procedure. "Gentlemen, I exhort you not to forsake the paths which your fathers have trodden with so much benefit to their patients and honor to themselves!"

DR. W. T. MONTGOMERY, of Chicago, in his report on

OPHTHALMOLOGY AND OTOLOGY,

referred to the following topics: *Jequirity* in chronic granular conjunctivitis might be compared to iridectomy in glaucoma. Two years ago, while in attendance upon De Wecker's Clinic in Paris, he had seen jequirity used for the first time. Upon his return to Chicago, he had employed the drug in 250 cases of chronic granular conjunctivitis—all varieties of the affection, except the muco-purulent variety, with non-vascular cornea. A three per cent. infusion was an eligible preparation.

The lids were everted, and a brush saturated with the infusion was carried over the conjunctiva twelve times. In twenty-four hours, the desired inflammation, a peculiar membranous exudate, followed, with little local or constitutional disturbance.

Ten per cent. of all his cases were cured by one application. Twenty-five per cent. by two or three applications. Thirty per cent. by three to fifteen applications. Twenty per cent. were improved by one application. Twenty-five per cent. were not improved at all.

The applications were separated by intervals of at least twenty-four hours. In no case was more than the fourth application necessary to produce the inflammation. In two cases, the application three times was successful in producing the inflammation. Time required for recovery was one to three weeks. He had not seen a case of sloughing of the cornea, but three cases of dacryocystitis resulted from the treatment.

The drug should be used under the following precautions: 1. Never employ jequirity when the cornea is clear. 2. Never repeat the application within twelve hours. 3. Allow previous inflammation to subside before a second application.

Cocaine might be compared to the ophthalmoscope, in the inauguration of a new era in ophthalmology. Nothing so important has been invented or discovered since the days of general anæsthesia. Since November 1, 1884, Dr. Montgomery has performed the following operations with cocaine as a local anæsthetic: 2 cataracts, 15 needle operations, 5 iridectomies, 2 iridectomies for glaucoma, 1 foreign body in anterior chamber, 30 tenotomies, removal of numerous foreign bodies from cornea, Bowman's operation for pterygium. He employed a two to four per cent. solution. In iridectomy for glaucoma, the removal of foreign bodies from the anterior chamber, cocaine had yielded unsatisfactory results in his hands. In tenotomy of the recti, the injection of a few drops of the solution into the cellular tissue was of advantage. 10 cases of phlyctenular keratitis had been treated with the drug, and excellent results secured. In 12 cases of iritis, results were only partly satisfactory; relief from pain was incomplete.

One case of episcleritis was treated by the bichloride of mercury and potassium iodide internally and cocaine locally. He was unable to decide whether or not the anti-syphilitic treatment was the active agent.

Professor Graefe's substitution of *evisceration of the bulb* for enucleation was important, as there is no danger of meningitis, and the stump is superior. Although Professor Graefe claims the operation as original, Professor E. L. Holmes, of Chicago, had performed the operation years before, and Dr. Montgomery himself, at Professor Holmes's suggestion, had used this method in 1876.

Chancre of the eyelid, produced in an unusual way. A patient, two months ago, while at work in the kitchen, spilled the pepper-box into her face. A domestic endeavored to clear the conjunctival surfaces by the insertion of her tongue under the palpebral conjunctiva. Two weeks later, a characteristic sore appeared.

DR. S. J. JONES, of Chicago, thought that it was not justifiable to employ jequirity in chronic granular conjunctivitis in the present state of our knowledge. The local effect and constitutional reaction are not always insignificant. Sloughing of the cornea and dacryocystitis are well-known effects of local application; chill, high fever, and nervous symptoms have followed as evidence of systemic reaction. The entire treatment is empirical. De Wecker received the drug from a South American patient, found it effectual in a few cases, and based his deductions on too little experience. The drug should not be condemned, neither should it replace old, tried, effectual, and *harmless* agents. In his own case, he would not employ the remedy; patients deserved the same consideration.

He thought hydrochlorate of cocaine is valuable in the production of superficial anæsthesia. It may be employed when general anæsthesia is contra-indicated. He had used the drug in two iridectomies, but the patients complained of pain. He thought the reaction following the local use of the drug due to the mental effect of the operation. Finally, he thought that there is danger of claiming too much for the remedy, as reaction must set in and may result in its total rejection.

DR. MONTGOMERY said that if he had chronic granular conjunctivitis, he should not hesitate to use jequirity. With reference to the physiological action of the remedy,

it produced a peculiar membranous inflammation as the result of ulceration of a very superficial character, much in the manner of bluestone. He had kept a solution of cocaine for over three months, and had not observed any deterioration as suggested by Dr. Skeer. Cocaine constricted the bloodvessels, rendering the parts anæmic.

DR. J. D. SKEER, of Chicago, suggested that the action of jequirity might be explained by an ulceration of fibrinous deposits in the submucous tissue.

DR. ROBERT TILLEY, of Chicago, read a supplementary

REPORT ON OPHTHALMOLOGY.

He referred to the *relation of optic neuritis to brain tumors*, and his remarks were based on the one hundred and seven cases tabulated in the *Transactions*, for 1884, of the Ophthalmological Society of the United Kingdom, by Messrs. Walter Edmunds and J. B. Lanford, of England. They had previously expressed the opinion that optic neuritis, when it exists as a consequence of brain tumor, is the result of a secondary meningitis. In the examination of the reports associated with their post-mortem examinations, the statement of the existence of optic neuritis refers only to its manifestations early in the clinical history of the cases reported, at such time, in fact, when the other symptoms were of such a character that there could be no doubt of the existence of some special disturbing influence in the brain.

In the study of the one hundred and seven cases, they were arranged into ten groups, according to the location of the tumors, thus:

Tumors in	Optic neuritis.	No optic neuritis.	Total.
1. Anterior frontal convolution .	8	2	10
2. Motor convolutions . .		12	12
3. Occipital lobes . . .	5	4	9
4. In hemispheres (not otherwise specified)	6	4	10
5. Ganglia at base . . .	17	3	20
6. Temporo-sphenoidal lobes .	1	2	3
7. Cerebellum	20	3	23
8. Medulla and pons . . .	3	6	9
9. Meningeal growths at motor convolutions . . .	4	1	5
10. Meningeal growths elsewhere .	4	2	6
Total	68	39	107

In summing up the groups those situated in the convex region of the brain, groups 1, 2, 3, 4, and 9, were added together, and fifty per cent. of the cases were found to have exhibited optic neuritis when first examined. whilst of the cases situated rather towards the base, groups 5, 6, 7, 8, and 10, seventy-four per cent. revealed optic neuritis and the estimation, so far as it was possible, was thought to favor the supposition that the optic neuritis was due to an extension of the meningitis. A curious fact in the investigation was that nine out of twenty cases of tumors in the cerebellum were associated with absolute blindness before death.

Under the subject *Operative Measures for the Relief of Glaucoma*, he referred to the fact that nine per cent. of all the blind are probably so affected as a result of glaucoma and that whilst operative measures are usually very successful in acute cases, similar success is not by any means so certain in chronic cases. As proof of this reference was made to the various operations which have been devised as remedial measures. For instance, drainage with gold wire, sclerotomy, internal myotomy, trephining the sclera and later the operation of Dr. Geo. E. Walker, of Liverpool, and the one described in the monograph of Dr. Geo. Lindsay Johnson, of London, England. The first making an incision through the external border of the cornea, through the periphery of iris and dividing the ciliary body at the same time, the latter claims great advantage from a paracentesis of the vitreous chamber with special precautions.

The reporter further described the operation advocated by Prof. Alfred Graefe, as a *substitute for eneucleation of the eyeball*, which consists in a removal of the cornea and contents of the sclera. The operation cannot of course be adopted where the orbital tissue or the sclera is involved in any malignant morbid changes. The advantage of the operations are larger stump and the leaving of the lymph sheath of the optic nerve intact.

Adjourned.

WEDNESDAY, MAY 20TH.—SECOND DAY.

MORNING SESSION.

After the reports of the Special Committees on State Legislation, a recess of ten minutes was taken in order elect a Nominating Committee.

Upon reassembling, Dr. E. F. Ingals, of Chicago, read a paper entitled *Recurrent Laryngitis, in Relation to Obstruction of the Nares, or Chronic Post-nasal Catarrh.*

DR. J. P. MATTHEWS, of Carlinville, read a report of a case of

TRACHEOTOMY FOR STENOSIS OF THE LARYNX, PRODUCED BY TYPHOID ULCERATION,

and presented the patient for inspection. The man, 28 years old, of good antecedent history, took cold October 4, 1884. He complained of much hoarseness at that time. In November, 1884, Dr. Matthews attended him during a severe attack of typhoid fever, which lasted about thirty days. The hoarseness and dyspnœa began to subside about the thirtieth day, but the function of the larynx was never perfectly restored. Laryngoscopic examination revealed thickening of the aryepiglottideal folds and stenosis of the larynx. Bloody purulent matter was expectorated, which led to the diagnosis of ulcer below the vocal cords.

January 6, 1885, tracheotomy was performed, and the symptoms of dyspnœa relieved. A large quantity of bloody pus was expectorated, confirming the diagnosis of ulcer below the cord. The patient still wears the tube, although Dr. Matthews thinks it can now be safely removed. The ulcer was probably due to typhoid fever, as there is entire absence of pulmonary disease. Dr. Matthews related the history of a case of spasmodic asthma, cured by the relief of a chronic post-nasal catarrh.

DR. PREWITT, of St. Louis, alluded to a case of obstruction of the posterior nares, cured by breaking off a portion of the septum by means of Adam's forceps. Dr. Prewitt narrated the history of a patient with pneumonia; sudden dyspnœa occurred, leading to the opinion that obstruction in the larynx existed; tracheotomy was

performed, a fibrinous cast was expelled, and the patient recovered.

DR. INGALS thought that laryngotomy was indicated in Dr. Matthews' case.

DR. F. E. WAXHAM, of Chicago, referred to the treatment of laryngeal stenosis by tubage.

AFTERNOON SESSION.

DR. A. E. HOADLEY, of Chicago, presented a paper entitled *Too Frequent Feeding as a Cause of Disease in Infants, and a Protest Against One Cow's Milk.*

DR. C. TRUESDALE, of Rock Island, read the report on

TETANUS.

He narrated the history of two cases of tetanus, occurring in his own practice, during June and July, 1882, which terminated favorably. The treatment was local and constitutional. Locally, a saturated solution of carbolic acid (six per cent.) was injected hypodermatically; constitutionally, morphia, calabar bean, choral, and bromide of potassium were successively pushed to their full physiological actions.

DR. G. G. CRAIG, Health Commissioner of Rock Island, had recently treated two cases of tetanus with success, by Dr. Truesdale's method.

Hypodermatic injections paralyze the peripheral nerve terminations, while the employment of the most powerful depresso-motors, successively, pushed to their full physiological actions, complete a line of treatment, which Dr. Truesdale is inclined to believe almost specific.

DR. T. R. BROWER, of Chicago, Chairman of the Special Committee on

THE TREATMENT OF EPILEPSY,

read an interesting report. His conclusions were:

1. Surgical procedures offer the most certain methods of cure; the removal of cicatrices, trephining, oöphorectomy, and ligation of the vertebral arteries being the more important operative procedures.

2. The general treatment should be mainly addressed to building up the general nutrition of the patients. Brucia, strychnia, and arsenic are the most important therapeutic agents.

3. Depressing agents, such as bromides, are palliative rather than curative. To be curative, they should be pushed to bromism, hoping thereby so to alter the nutrition of the nerve-centres as to make the epileptic habit impossible when they are withdrawn.

On the report of the Nominating Committee the following were elected

OFFICERS FOR THE ENSUING YEAR:

President.—W. A. Byrd, M.D., of Quincy.

Vice-Presidents.—Drs. W. T. Kirk, of Atlanta; and A. Wetmore, of Waterloo.

Permanent Secretary.—Dr. S. J. Jones, of Chicago.

Treasurer.—Dr. Walter Hay, of Chicago.

Assistant Secretary.—Dr. I. H. Luce, of Bloomington.

Place of Meeting.—Bloomington.

Time.—Third Wednesday in May, 1886.

THURSDAY, MAY 22D.—THIRD DAY.

MORNING SESSION.

DR. H. J. REYNOLDS, of Chicago, read a paper on the

TREATMENT OF ECZEMA.

He uses in the subacute and the chronic conditions (either of which may at any time develop acute symptoms and require the treatment changed accordingly), pure, impalpably fine boracic acid as a dusting powder, having first gotten rid of crusts and scales by soaking with oil and washing with soap and warm water. In the chronic, however, he uses greater stimulating measures, in the way of green soap frequently rubbed in during washing. To relieve intense itching, he has found nothing so effectual as first-class letting alone.

He thinks bandaging and strapping advisable whenever practicable, and prefers the cotton roller to the rubber where there is much exudation or maceration of the skin. He reported two cases of twelve and twenty years' standing respectively, of eczema rubrum of the leg associated with varicose veins and ulceration, where many remedies had been tried without success that he cured by the application of boracic acid and bandaging, and a saline laxative internally.

DR. W. A. BYRD, of Quincy, read an interesting

REPORT ON SURGERY.

In the consideration of special subjects, he alluded to recent progress in the extirpation of the thyroid gland and Kocher's strictures upon thyroidectomy, published in 1883. Zesas found that thyroidectomy in animals was soon followed by a general morbid condition. Dr. Byrd had removed the thyroid gland once, three or four years ago, from a lovely child four years of age. She did well for a few months, and then wasted away and died. The value of such a work as Dalton's *Topographical Anatomy of the Brain* is made apparent when we see Drs. Lee and Fenger, of Chicago, opening an abscess of that organ, and Mr. Richman J. Godlee, of London, cutting down upon a glioma the size of a walnut and removing it.

Operative procedures for the cure of epilepsy and insanity are becoming more common and he believes more successful. The failure, in some instances, in effecting a cure being, perhaps, due to not removing enough of the irritating bone, as suggested by Dr. W. T. Briggs, of Nashville.

Abdominal surgery is advancing. Dr. Wm. T. Bull, of New York, cuts down upon injured intestine from a bullet wound, resects the injured portions, and the patient recovers. Dr. Edmund Andrews, of Chicago, has had two cases of gunshot wound of the abdomen, with injury of the intestines—in one case the stomach was empty, in the other full of beer—which recovered without operation. Dr. Joseph Grindon, of St. Louis, reports a case of incised wound of the abdomen, with injury to the intestines, recovering after resection of two inches of the tract.

Several cholecystotomies have been performed during the year; Dr. Charles T. Parkes, of Chicago, reports an interesting case of this character. An autopsy made by Dr. R. G. Bogue, of Chicago, showing six gall-stones, the size of a filbert, impacted in the common duct, demonstrates the futility of the method of exploration with an aspirator needle, suggested by Dr. Whittaker and Dr. Ransohoff, and the advisability of exploratory incisions. Dr. Byrd mentioned the ingenious proposition of Dr. J. McGaston, of Atlanta, Ga. That bile is not absolutely essential for life is proven by the case cited by Dr. F. W. Beard, of Vincennes, Ind., of a patient who survived for years with the bile flowing from a fistule he had formed with his scalpel.

All surgeons admit that amputation at the hip-joint is one of the most formidable operations that they are called upon to perform. Not alone from the extensive surface laid bare and the shock, but from hemorrhage and the evils resulting from the means employed to control the hemorrhage. When the abdominal tourniquet is employed, the intestine may be so bruised as to cause enteritis, perforation, peritonitis, and death. Davy's lever, even in his own hands, has so wounded the bowel as to cause death, while introduction of the entire hand into the rectum frequently causes laceration of the colon. To obviate this, Lloyd, of Manchester, adopted the method of passing a stout India-rubber tube around the hip, allowing the ends to cross above Poupart's ligament; under the point of crossing a compress was placed so as to bear on the artery above the ligament. The ends of the tube were then entrusted to assistants. This method was tried successfully by Dr. Wheaton, of St. Paul. The objection to it is that it is tiresome to the assistants, and brings more persons than are necessary around the operating table, to be in the way of the operator. The latter objection applies equally to some of the methods mentioned above.

To obviate these evil effects, Dr. Byrd has devised the method of applying a figure-of-eight of three-quarter inch French elastic tubing around the affected hip and opposite side of the body. Where the tubing passes in front, to go under the perineum of the affected side, it should come on the front side of the anterior superior process of the ilium, and go below the process when it crosses the body on the opposite side. Then to keep the transverse portion from rising over the lax tissues of the abdomen, tie a piece of bandage around the tube about the middle of the back and bring it forward over the perineum and tie down the front part of the tube. Then apply a three inch tightly rolled bandage, two inches thick, over the course of the iliac artery where the rubber crosses, and with heavy thread or twine stitch it to the former by the rubber. Retract the portion of the elastic band behind the affected limb with a piece of bandage passed around it and tied to the back cross rubber, drawing it tightly. This is done to prevent its slipping off when the limb is raised or amputated.

Dr. Byrd has tried this method twice during the past year, and knows nothing that could be more satisfactory. In one case operated upon, near Hannibal, Mo., 29th September, 1884, for osteosarcoma, by amputation at the hip-joint, the patient was a large man, and had had the femur amputated through the lower third, the year previous, for sarcoma of the knee. The disease had returned, and was giving him great pain. After the operation, there were not more than six or eight ounces of blood upon the floor. The vessels were twisted, and the patient was in bed in fifty minutes from the time he was taken from it to the table.

In the other case, the patient had sustained a compound fracture of the femur from falling from the top of a moving railroad car to the bottom of a ravine, the distance being about thirty feet. This was April 4, 1885. The shock was so great, that he was not fit for amputation until April 8th, by which time there were symptoms of acute osteomyelitis. Amputation was performed as above indicated, and he died the morning of the 12th, not from the amputation, but from phlegmonous inflammation in the other limb, which had been greatly bruised, causing septic troubles. The patient did well for two days after the amputation, and it seemed as if he would surely recover, until the swelling commenced in the opposite leg. The vessels were twisted, but an Esmarch's bandage was not applied, as it was deemed undesirable to drive any decaying material into the circulation. There was a good deal of ichorous infiltration, in spite of free drainage, that had been established through the lower portion of the wound with rubber drainage-tubes. The limb was elevated to allow the blood to flow back into the body before the application of the tourniquet. There was some blood escaping from the vessels of the amputated limb, but with that exception there was not a half ounce lost. By this method, hemorrhage from the femoral, gluteal, and obturator arteries is controlled.

Dr. Byrd is firmly convinced that twisting is a much safer method of treatment than the ligature, when applied to large vessels. The femoral vessels were twisted as they emerged from under Poupart's ligament, and he would have been perfectly satisfied to have twisted the common iliac or aorta, should any possibility have required it. If a ligature is applied to an atheromatous artery, the vessel will, most likely, give way, and there will be secondary hemorrhage. Vessels in such condition should be treated by some one of the methods detailed in systematic treatises on acupressure.

How long should a vessel be twisted? Until the elasticity of its coats gives way. Take a leather tube, which is inelastic, and bend it in a twist sharply upon itself once, and try to force water through it, and you will find that it will give way. The artery, when rendered inelastic, will obey the same invariable physical law. What instruments are necessary to perform torsion or twisting satisfactorily? One good, solid-jawed pair of forceps that will not *wabble* during the pressure of the operation, such as the Golding-Bird slide-catch forceps, or the Prince or Lawson Tait ring-handled pressure forceps. The objection to using two forceps is that the vessel is apt to be torn across to some extent, near the jaw of the forceps that holds it cross-wise. Dr. Byrd has not ligated an artery of any size for nearly five years, and does not think he ever will, if his results in the future are as favorable as in the past.

There is one operation where twisting is especially indicated, and that is castration. The whole cord should be caught up in the jaw of a stout pair of forceps, and cut off nearly an inch from the same. By this method the hemorrhage is controlled, and the vessels will protrude from the cut end of the cord most satisfactorily, so that they may be picked up leisurely and twisted. In this instance, the Crop forceps does no harm, since the vessels are surrounded by a mass of tissue that prevents them tearing across at the corners. The cord is dropped, and there is no fear of the agonizing pain, or even tetanus, that sometimes follows the catching up of some filament of nerve in the grasp of the ligature. There will not be the long waiting for the ligatures to come away, sometimes having to be coaxed away with little elastic bands (Ashhurst) fastened to the limb with sticking-plaster.

Some years ago—not many—Dr. Byrd read a paper—a translation from the German, by Dr. Nicholas Senn—in which the surgeon recommended the opening of psoas abscess in the groin, and passing a probe or sound

along the sinus until above the ilium, and there making another opening down to the sound, thus shortening the passage-way of the pus and rendering recovery more rapid and certain. Mr. Frederick Treves, of London, recommends, and has practised, cutting down directly upon the diseased vertebræ, but limits the operation to diseased lumbar vertebræ. Dr. Byrd thinks the operation can be very readily and safely extended to cases of caries of the dorsal vertebræ, resecting if necessary a portion of the rib or ribs near the vertebral column.

On April 10, 1885, a man, thirty years of age, appeared at Blessing Hospital. He had Pott's disease, involving the four lower dorsal vertebræ, with a resultant psoas abscess, pointing under Poupart's ligament, nearly ready to burst. He was anæsthetized, and the abscess was opened at its most dependent point, and a solid tin probe, the size of an American gauge, No. 15 catheter, passed up to the sinus until its point was under the edge of the twelfth rib. It was then cut down upon, a drainage-tube attached to it, and the probe withdrawn, carrying with it the drainage-tube, which was left in the sinus a length of fifteen inches. The sinus was washed out twice daily with a strong solution of boracic acid. In four days after the operation, the patient returned to his home, at Wendon, Ill., recovery assured.

DR. W. H. VEATCH, of Carthage, read a very brief abstract of a paper entitled, *Intestinal Obstruction*, after which the Society adjourned.

The members were entertained at a reception on Tuesday evening, at the Executive Mansion, by His Excellency, the Governor of the State.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Stated Meeting, May 6, 1885.

THE PRESIDENT, J. M. DA COSTA, M.D., IN THE CHAIR.

DR. H. C. WOOD presented a paper on

THE BASAL PATHOLOGY OF CHOREA,

in which he stated that he had come to some definite conclusions concerning the basal pathology of chorea, which he should be glad to communicate to the College, and give the grounds for his belief.

The first point which he wished to make is, that the term chorea is simply one which is analogous to the term paralysis, and that the choreic movement is no more the same thing, necessarily, in its basal pathology, than is palsy the same thing in its basal pathology. When we come to study the various forms of disease closely connected with the choreic movements, we find, in the first place, the so-called cerebral or post-hemiplegic chorea, in which, after cerebral palsy, there appear violent convulsions with choreic movements. The seat of this lesion has been assigned by Professor Charcot to the corona radiata, near the lenticular nucleus; and there have been a number of post-mortems made which verify this view of its location. There can be no doubt that, in many cases, the lesion is situated in this position; but, on the other hand, it is equally certain that there have been cases of so-called post-hemiplegic chorea in which the lesion has been in the external capsule and in the cortex. We may, therefore, say that this post-hemiplegic chorea is associated with various lesions in the brain, so far as seat is concerned.

Then again, there has been reported in the *Compt. Rend. Société Biologie*, of Paris, a case of typical post-hemiplegic chorea, having absolutely all the features of organic hemiplegia with chorea, in which the most careful examination made by thoroughly competent persons failed to show any lesion whatsoever of the brain. As there had been a previous history of hysteria, the patient dying of pneumonia, we are forced to the conclusion that we may have post-hemiplegic chorea, which is without lesion, and hysterical in its nature.

When we come to study the more general forms of chorea, leaving out of sight for the present the chorea of childhood, or St. Vitus's dance, we have a chorea which is plainly hysterical; we have the electric chorea of the French, which he believes to be another form of hysterical chorea. We learn that, therefore, we may have a chorea dependent upon lesion of the brain, which also may have various seats, or we may have a chorea independent of any lesion whatsoever in any portion of the nervous system.

When we come to study chorea of childhood, we find that the pathology is perfectly parallel to that of the other forms of chorea. We have a large number of reported cases in which the lesion was evidently capillary embolisms of various portions of the brain, especially of the corpora striata and optic thalami, but also in other portions. We have other cases in which no lesion was to be found Then we have recent cases, especially reported by Dickinson and Ross, in which serious lesion was found in the spinal cord. The clinical history of chorea in childhood also shows conclusively, to his mind, that it may exist without any organic lesion which can be detected. We have it developing in a moment from emotion, passing off in a few weeks, and affected immensely by a few doses of arsenic or other agencies which would be powerless to affect any severe organic lesion.

So far as the study of the disease in the human subject is concerned, he thinks that these remarks sum up all that we can reach to, namely, that we may have chorea with various lesions and without lesions.

Dr. Wood stated that he had been much interested this winter in studying chorea in the dog. It has been affirmed that chorea in the dog is different from chorea in the child. The great reason for believing that the disease is distinct is, that in the dog the movements are chiefly rhythmical, whereas in the child the movements are not usually rhythmical; but he has seen dogs with absolutely arhythmical chorea, and with all the awkwardness of chorea of children; and occasionally, we have more or less of the rhythmical type in children. When we come to look at the points of resemblance in the two diseases we find, in the first place, in each case it especially affects the young animal. In the second place, that in each case the disease is associated with a constitutional disorder—distemper in the dog, rheumatism in the child. In the third place, the symptoms are exactly analogous, except that there is more tendency to rhythm in the one than in the other. In the fourth place, the clinical experience of veterinarians and of physicians has led to the same result, namely, that arsenic is the best remedy that is known for chorea in the dog, and that it is the best that is known for chorea in the child.

Unless, in the case of a contagious disease, where you

can pass the disease from one animal to another, it is manifestly impossible to be perfectly positive that a certain disease in the animal is the same as a certain disease in the child, but when you find the habit of the affections the same, the symptoms parallel, and the therapy identical, you have as good reasons as can be possibly assigned for believing that the diseases are closely similar. It is, however, not necessary for my present purpose to take it for granted that the diseases are the same.

When he came to study chorea in the dog, the first point to settle was the seat of lesion. He therefore cut the spinal cord so low as not to interfere with breathing. He found that invariably the choreic movement continued after section. Before the section the motions of the front and hind-legs were synchronous—that is, a wave of motion starting in the front paw would pass down the hind-foot, but after the section this synchronous movement was wanting. The hind-legs were completely isolated from the upper portion of the nervous system, and yet continued to exhibit the choreic movements, proofs that the movements originated in the spinal cord. He therefore had his search for the seat of lesion narrowed down to a small fragment of nerve-tissue. He found that not only did the movements originate in the spinal cord, but that they orignated, in all probability, in the motor cells, because when he galvanized the bared sciatic nerve, although the animal exhibited no signs of pain, the movements in the hind-leg were at once inhibited. The galvanism of the sciatic nerve could only affect the motor cells. Therefore he came to the conclusion, physiologically, that we had to do here with movement which originated in the motor cells of the spinal cord.

The next step was to examine the cord. Gowers and Sankey found in the cord a peculiar infiltration with leucocytes, and they came to the conclusion that leucocytal infiltration was the basal pathology of this disorder. Gowers had previously examined a cord without finding this condition. Dr. Wood examined a spinal cord and thought that he had found Gowers's lesion, but he was careful not to say so positively, because he had a suspicion that what was supposed to be a lesion was simply a peculiarity of the dog's cord. When he examined the cords of healthy dogs he found the same leucocytes. He did not say that what he saw was the same as the condition described by Gowers.

When he first examined the cord he perceived nothing wrong beyond what has been noted, but, bye-and-bye, as he began to study the specimen more and more closely, he found that the motor cells refused to take the carmine and hæmatoxylon staining as they should do. Then he remembered that he had killed the dog early in the disease. Then he took the cord of a dog which had died of the disease. Under these circumstances the lesion in the motor cells was very marked. They were crumpled up, the processes were gone, and the nuclei had disappeared. They were merely masses of matter, taking very little staining, just enough to show that they were protoplasmic. As he killed dog after dog in different stages, he found that the motor cells were to be noticed in all stages of degeneration. First, the perfect cell, then the cell which stained badly, then one with nuclei disappearing, the margins becoming obscured, the processess dropping off, and opaeity occurring; and, finally, the irregular protoplasmic ball. In a few cases he noticed peculiar degeneration, *i. e.*, the formation of vacuoles in these cells. A change, then, in ganglionic cells is what he believes to be the basal lesion of chorea.

It so happens that, some years ago, Putnam, of Boston, studied chorea in the cat. In the first case he found no lesion, but in the second he found the lesion which he had described. The important point is, that he found that this lesion pervaded not only the spinal cord, but the whole nervous system. We all know that the choreic movement is only a part of the symptoms of the disease, and that the moral and intellectual part of the child also suffers. He believes that in children we have an altered condition of the ganglionic cells. The reason that no lesion is found early is, that the disease is at first functional. It is not necessary that he should call attention to the fact that there is no such thing as functional and organic disease. The line which we draw is a purely arbitrary one; for, the moment there is altered function, there is altered protoplasmic change, and, when there is altered protoplasmic change, there is altered nutrition, and then organic disease. Our microscopic eye is so blind and gross that it cannot see these fine changes until they become so distinct that we can detect them, and then we say that organic disease exists.

The history of chorea he conceives to be this: Owing to emotional disturbance, some stopping up of various vessels of the brain, or sometimes to the presence of organic disease, now this cause, and now that, there is an altered condition of the ganglionic cells throughout the nerve centres. If the cause is removed and the altered condition of the nerve cells goes only so far, it remains what we call a functional disease. If it goes so far that the cells show alteration, we have an organic disease of the nervous system.

The capillary emboli, the clots, the tumors, and the various gross lesions which have been found in chorea, are not, in his opinion, the basal lesion, but the cause which produces these changes in the cells which are at the bottom of the choreic movements.

DR. S. WEIR MITCHELL asked if he understood Dr. Wood to say that he considers the lesion of the spinal cord as essential to the production of chorea, or does he think that there may be chorea dependent upon a descending lesion?

DR. WOOD said that in his detailed account he would give cases in which descending degeneration is present.

DR. OSLER hoped that he might be allowed to say a few words on the subject, as owing to the kindness of Dr. Wood he had an opportunity of examining these specimens. He cannot say that the specimens carried as much conviction to his mind as have the words of Dr. Wood, to-night. At the same time, the changes which he has described are undoubtedly present. The only question is as to the interpretation of these appearances; whether they are really the result of the disease, or whether they are the result of methods of preparation, is extremely difficult to determine. In regard to presence of vacuoles, they have been seen and described before. We all know that the appearances in the nerve-cells of the cord are, above all other things, most deceptive. It strikes him that these appearances are not altogether conclusive to prove that Dr. Wood has arrived at the true essence of the pathology of the disease.

TORONTO MEDICAL SOCIETY.

Stated Meeting, April 30, 1885.

THE PRESIDENT, DR. R. A. REEVE, IN THE CHAIR.

OSTEITIS DEFORMANS.

DR. MCPHEDRAN presented a case of this affection. Mrs. M., aged 63, English, good family history. Healthy till she was 45; since then she has been ailing. Six or seven years ago had a severe illness, in which her right side was paralyzed. She soon recovered from the paralysis, except some numbness in region of distribution of ulnar nerve of right hand. Within a few months she began to complain of pains in right leg, and soon noticed that it was larger and beginning to bend. The curving has gradually increased ever since. Shortly after, the right side became the seat of irregular pains, and it began to "fall in." About three years ago, right hip began to pain her and thigh to bend. For last three or four years has found walking troublesome, the difficulty gradually increasing. At present the right tibia is considerably enlarged and markedly curved; the curve is convex forwards and outwards. The femur of same side somewhat thicker, and its natural curve increased. Standing with heels together, the knees are about two inches apart; were the left leg equally affected, as is usual, the knees would be very far apart. The ribs on the right side are considerably contracted. No changes are to be found in any of the other bones. There is a tumor, hard, fairly smooth, and painless, about the size of a large orange, below the liver, and apparently free from it. Its inner margin is about two inches external to the umbilicus. The gait in walking is awkward, but does not interfere with her duties as housewife. General health fair; excretions normal.

This disease was first described by Sir James Paget (*Lancet*, 1876, vol. ii.). It seldom begins under the age of forty, and usually later. It is slow in its progress, and may exist many years without detriment to the general health. There are in some cases troublesome pains, but they are neither nocturnal nor periodical. The disease affects the long bones of the lower extremities most frequently, and it is usually bilateral. The vault of the cranium is frequently diseased, also the clavicles. The affected bones become larger and heavier, but so weakened as to bend beneath the weight of the body. The spine may sink and seem to shorten, with increase of the dorsal and lumbar curves; this may be due to the great weight of the head, or disease of its own structure. The loss of stature in some cases has been as much as two inches. The arms are seldom affected; those in whom they are diseased are usually female. Respiration may be interfered with, owing to the increased dorsal curve causing such approximation of the ribs as to interfere with their free movement. There is no fever; excretions are normal.

In examination of the bones after death, the skull when affected is found greatly thickened, the sutures obliterated, the grooves for the vessels much deepened, and the distinction between the inner and outer tables lost. The changes in the long bones are usually confined to the compact tissue of both shaft and articular extremities. It is greatly thickened, sometimes encroaching on the medulla, which in some cases is diffluent and redder than normal. Microscopical examination shows a diminution of the number of Haversian canals, which are enlarged and filled with fibro-nuclear tissue, leucocytes, and occasionally myeloid cells and fat around the vessels. The lacunæ and canaliculi are normal. Chemical examination shows little change from normal bone.

These facts indicate that the disease is a chronic inflammation of a low type. It is distinguished from other inflammations whether simple or gouty, strumous, syphilitic, etc., by the clinical history and the retention of good health. In arthritis "deformans" the general health also remains good, but then the local changes are confined to the articular extremities: this disease is never found associated with osteitis deformans. Rickets and osteomalacia are quite different. In rickets the bones are too short and small and have curves different from the curves in this disease; in osteomalacia the bones are thin and the curves are angular. Nothing is known as to the cause of this disease. Lunn has suggested that it is a constitutional disease causing atrophy and absorption of a large part of the osseous system. (*St. Thomas Hosp. Rep.*) The compensatory formation of bone might be looked upon as an ill-developed callus. A large number of the cases reported have died of malignant disease. Of the five cases originally reported by Sir Joseph Paget, three died of cancer.

Treatment has effected nothing as yet. Potassium iodide has been much used; one case that consulted Wilks came with a pile of prescriptions in all of which this formed the staple. It is useless to give this remedy, as it has no effect on fully formed bone. The disease must be specially rare in America; I have met with no other case nor have I seen a description of such in any of the American Journals.

A CASE OF MOTOR APHASIA FROM INJURY, WITHOUT PARALYSIS OF ANY OF THE LIMBS.

DR. J. H. BURNS gave the following notes of the case. Mr. K. æt. 56, healthy and robust, fell down stairs; he was assisted to his feet and with help walked to a chair. He did not then speak or at any time subsequently. He became unconscious about three hours later. In my absence Dr. Duncan saw him that evening for me, and with me the next morning, by which time he had recovered consciousness and was able to leave the bed. His bowels had been freely moved with croton oil. There was an injury to the soft tissues over the right eye, but no fracture could be made out. He swallowed with great difficulty; there was neither motor paralysis nor anæsthesia of any part of the limbs. Twenty-four hours after injury pulse was 100, temp. 101°. Dr. Workman saw him in consultation following morning, temp. 104°, pulse 120. During the afternoon he had a convulsion and after that convulsions recurred every ten minutes till he died at 2 P.M. next day. The left side was most affected with the convulsions. During this time there was retention of urine. Death took place sixty-eight hours after injury.

Post mortem seven hours after death. Extravasation into subcutaneous tissue over parietal and temporal bones of right side. There was an extensive fracture in this region with slight depression. Dura mater intimately adherent to calvarium. A large clot was found between dura mater and skull at seat of fracture. Great congestion of cerebrum beneath this. Another clot was

found beneath the dura mater on left side of brain opposite seat of injury, with extensive disorganization of the lower part of middle lobe of brain on left side. Heart and lungs normal, liver small but apparently healthy, kidneys healthy.

DR. DUNCAN, who assisted at the autopsy, said there were two distinct clots on the left side; one in the arachnoid space pressing on the temporo-sphenoidal lobe, another beneath this in the brain substance, in which on removal of the clot there was a laceration half an inch deep and one and one-half by one and one-fourth inches in extent. This clot probably resulted from rupture of a branch of the Sylvian artery. From symptoms, he had expected to find some such injury. The presence of *three* distinct clots was an unusual circumstance.

DR. WORKMAN said that he visited the patient in consultation on the 13th of April, and he is able to confirm all that has been stated. The symptoms that most attracted his attention was that of motor-aphasia unaccompanied by any paralysis in the lower or upper limbs. The only mark of external injury was the swollen and blackened state of the right eye. Close examination of the supraorbital region of the frontal bone gave no indication of fracture, nor did examination of the side of the cranium present any. The patient had evidently free use of the muscles of the arms and legs. When he saw him there was no stertorous breathing, neither was pronounced coma present, but there was a certain degree of torpor or somnolence, which he apprehended would culminate in coma. He had not spoken from the time of occurrence of the injury, neither had he taken any drink or food, most probably because of the paralyzed state of the glosso-labial muscles. The large extravasation of blood in the left temporal region, the result of the *contre-coup*, showed that some important vessel, most probably a branch of the Sylvian artery, had been lacerated, and it would appear from Dr. Duncan's statement that the cerebral substance in the Sylvian region was greatly injured. He had no doubt that this part coincided with the foot of the ascending frontal and the posterior part of the third frontal convolution, in which are the motor-centres for the speech muscles and for those of deglutition, etc. The absence of any mark of injury in the vicinity of the fissure of Rolando, accounts for the persistence of muscular power in the arms and legs. He regarded the case as one of much interest, in confirmation of the now so universally admitted doctrine of cerebral localizations.

CASE OF CARIES OF CONDYLES OF OCCIPITAL BONE, DISEASE OF ATLO-AXOID ARTICULATION, CARIES OF ODONTOID PROCESS, AND DISLOCATION CAUSING COMPRESSION OF THE SPINAL CORD AND DEATH.

DR. JAS. F. W. ROSS showed the specimen with notes as follows:

Harry A., æt. 5 years, paternal grandfather and grandfather's brother, father, and maternal grandfather, all died of phthisis. No history of syphilis. As an infant not robust; pale and puny. Had no disease during childhood but scarlatina, strumous keratitis, and post-aural eczema.

In May, 1884, it was noticed that he held his head in a peculiarly stiff position. When the nurse was cutting his hair it was noticed that he could not turn his head freely. He complained of some pain in the back of the neck, and the head was carried with the occipital protuberance towards the back, and the chin held out from the body. This pain became more severe, and he found it necessary to support his head on his hand towards the right side. In November some thickening was noticed over the transverse and spinous processes of the second and third cervical vertebræ. He ate well and did not lose flesh, but his gait was becoming unsteady. About the end of November he fell to the floor, going down by losing the power of the left leg first and falling to the left side. The arms and legs were completely paralyzed, but on this occasion he retained control of sphincters. He had no affection of the speech on this occasion. Remained in this condition for forty-eight hours. He then regained the use of the legs and right arm, but the left one remained almost powerless for some time.

February 14, 1885, he had a second attack, lasting only about four hours. Legs seemed to double under him, and he fell, perfectly powerless. He did not put his arms out to save himself. From this attack on, the least knock would destroy his balance and cause a fall. The speech remained unaffected in this attack. Eczematous patches now appeared on the back and behind the ears, and his general health began to fail. He would occasionally say when swallowing, "I am nearly choked," and required slow and careful feeding. Intellect perfectly clear; was never lost in any attack. Towards March 1, when walking round in the day, he could control his sphincters; but when lying down, the water and feces passed in bed.

March 12 the third attack came on. About 9.30 P. M. he awoke from a comfortable sleep. Had appeared very drowsy in the afternoon, and had no power to assist himself into bed. Usually stepped on a little stool sat on the bed and asked to be laid down, while some one held his head. When awake, he said, "My legs are asleep," "My legs are tired, "My foot might break off," "I can hardly talk," in succession; his speech became indistinct; words were "mumbled;" eyes rolled; nostrils distended; and breathing difficult. Before morning his legs became cramped, and in a few hours were being rigidly flexed on the thighs; the thighs on the abdomen, as in the lithotomy position. He asked to have his legs drawn down, as he could not keep them down. Temperature 100⅘°; pulse 120. Could whistle. Muscles of face and eyes acting normally; hearing, taste, and sight good; sensation in affected limbs variable, sometimes present, at others annulled. Could not distinguish any difference in sensation of the two sides. After this attack he lost complete control of sphincters, urine and feces passing involuntarily. Occasionally regained slight motion in limbs, and eventually died of pulmonary congestion on April 6, 1885.

On post-mortem examination, found the condyles of occipital bone eroded, the atlo-axoid articulation diseased, the cartilage eroded and loosened, the odontoid process gone, and a dislocation of the atlas off the axis to the right side, compressing the cord. No pus was present, and the joint was not filled with any fluid. The cord was marked as if it had been tied with a string.

The following were elected

OFFICERS FOR THE ENSUING YEAR:

President.—Dr. John J. Cassidy.

Vice-Presidents.—Drs. Alexander McPhedran and James H. Burns.

Secretary.—Dr. James F. Bell.

Corresponding Secretary.—Dr. G. B. Smith.

Treasurer.—Dr. Bertram Spencer.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, April 28, 1885.

THE PRESIDENT, ROBERT F. WEIR, M.D., IN THE CHAIR.

DR. R. W. AMIDON, by invitation, read a paper on

ATROPIA IN ETHER NARCOSIS.

DR. G. A. PETERS then presented specimens of

BILIARY CALCULI; PERFORATION OF THE DUODENUM; ABSCESS.

Elizabeth B., æt. 77, of Scotland, widow, was admitted into St. Luke's Hospital January 13, 1885. Family history negative. Three months before admission, she had an attack of sharp pain followed shortly after by a swelling in the right iliac fossa, which was quite painful on pressure. Pain seemed to run towards the median line into the bowels. Was worse at night. She says that on admission the swelling was softer, smaller, and less painful than it has been. On admission an examination revealed a prominent swelling in the right iliac region, tender and distinctly fluctuating, skin normal. Right thigh is readily flexed on abdomen.

January 16.—Patient was etherized and Dr. Abbe incised the tumor and evacuated a considerable quantity of greenish-yellow pus. A number of trabeculæ were broken down. No communication could be detected with vermiform appendix or any internal organ. Antiseptic dressing applied.

April 4.—The discharge has continued, and a probe occasionally introduced discovers only a small cavity beneath the skin, although a free discharge of pus in the daily dressings indicates a deeper secreting cavity. Dr. Peters enlarged the wound, the patient being etherized. After considerable careful searching, the probe dropped into a narrow sinus, downwards and inwards. This sinus was enlarged and a small steel searcher was introduced which could be readily swept round a large cavity, apparently limited by peritoneum towards the median line. The finger in the wound readily detected the lower edge of the right lobe of the liver and to the inside the peritoneum. A rubber drainage-tube, about three inches long, was introduced and stitched to the skin. Edges of the wound were united by a continuous suture of catgut. About a pint of solut. hyd. bichlor. (1 to 2000), warm, was used for irrigating the cavity, and most of this fluid ran out again. An antiseptic dressing was applied. Abdomen became distended and painful.

5th.—Pain and distention much less. Temperature normal. At 6.30 o'clock P.M. she suddenly collapsed and did not respond to free hypodermic administration of brandy. Died of heart failure at 3.30 A.M.

6th.—Autopsy at 2.30 P.M. by Dr. Frank Ferguson. Body is fairly nourished. Rigor mortis is well marked. There is no œdema. There is an incision commencing just in front of the right axillary line, opposite the free border of ribs, and extending downwards and inwards a distance of three inches. This incision communicates with a cavity in the abdominal wall of the right hypochondriac region, measuring, when distended, one and a half inch in length and one inch in breadth, of oval shape. A drainage-tube three inches in length and one half an inch in diameter passes from the incision above described into a compartment within the peritoneal cavity. A sinus extends from the upper limits of the cavity through which the drainage-tube passes and communicates with the gall-bladder, which is filled with biliary calculi. This sinus is two and a half inches in length, and admits a probe one-eighth of an inch in diameter. Section through the abdominal wall in the median line reveals the following conditions within the peritoneal cavity.

The liver and diaphragm are adherent by loose old adhesions, but the anterior edge of the liver is firmly united to the free edge of the costal cartilages in the right hypochondrium.

The ascending colon is buried beneath the liver, and at the hepatic flexure the colon sharply turns upon itself, forming an acute angle, and passes forward and to the left. The portion of the colon thus passing forward is distended and firmly united to the under surface of the liver. The mesocolon of the transverse portion of the large bowel is quite long, and this portion of the colon forms a horseshoe curve, reaching nearly to the brim of the pelvis.

The descending arm of this curve is attached to the spinal column by a broad thick loose plane of omentum. The omentum attached to the transverse colon elsewhere, and arising from the lower border of the stomach, covers in the intestines everywhere, and is attached by firm old adhesions on the right side to the canal of Nuck.

From this it will be seen that there is a compartment within the general peritoneal cavity, limited above by the first portion of the transverse colon, distended and adherent to neighboring viscera, in the median line by the plane of omentum above described; below by the adhesion of the omentum to the canal of Nuck, and the position of the intestines in that region of the peritoneal cavity.

The surfaces of intestine within the peritoneal cavity and the parietal peritoneum are covered by recent lymph. The diaphragm is on a level with the fourth rib on the right side, with the fifth rib on the left side.

There are old adhesions at the apices of both lungs. No fluid in either pleural cavity. The heart is small, brownish in color. There is slight atheroma of the aorta, also of the segments of the mitral and aortic valves. The lungs and spleen are normal.

The kidneys are smaller than normal; their capsules are adherent in places. The markings are not very distinct. There are a few small cysts in the cortex of each organ. Under the microscope the epithelium shows extensive fatty degeneration.

The mucous membrane of the stomach is normal. The pylorus is normal. An inch below the pylorus there are two openings in the wall of the duodenum,

separated by a thin band of mucous membrane, and each opening admits a probe one-quarter of an inch in diameter. The probe readily passes through these openings into the gall-bladder, there being firm union between it and the first portion of the duodenum; thence through the sinus above mentioned into the cavity in the abdominal parietes of right hypochondrium; thence through the incision already alluded to.

The cystic duct is impervious. There are several small calculi in the hepatic duct, whose orifice is normal in size. The gall-bladder contains nineteen calculi of variable sizes, some of them as large as a walnut and presenting several facets.

There is slight increase in the fibrous tissue of the liver. The biliary ducts are dilated moderately. The central vessels are greatly distended with blood, and there are hemorrhages in the liver tissue in places. The mucous membrane of the intestines is normal, except as above stated. The uterus is smaller than normal. The ovaries are atrophied.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, May 21, 1885.

THE PRESIDENT, A. JACOBI, M.D., IN THE CHAIR.

DR. T. H. BURCHARD presented a paper on

OBSERVATIONS ON THE TREATMENT, MEDICAL AND SURGICAL, OF ACUTE PERITONITIS.

He commenced by saying that peritonitis is the most fatal of the acute inflammatory diseases, the mortality being from fifty to sixty per cent.; while if the so-called idiopathic cases are excluded it is from twenty to thirty per cent. higher. He then said that he believed this rate of mortality is unnecessarily high, and that a threefold conception of the disease is essential for its rational treatment, first, as to the cause; second, as to the natural history; and third, as to the natural tendency of the disease.

The text-books give the causes of death as (1) collapse and (2) asthenia. Clinical observation, however, amplifies them as follows: (1) collapse; (2) asthenia, (*a*) from heart failure, (*b*) from respiratory failure; (3) inflammatory changes in the lungs; (4) inflammatory changes in the kidneys; and (5) hyperpyrexia. A knowledge of the cause in any case is essential to its satisfactory treatment. Everything points to the correctness of the proposition that there is no such disease *per se* as peritonitis. He then alluded to the alleged difficulties of diagnosis, and stated that a correct diagnosis is possible even where the difficulties are apparently very great. In proof of this he cited certain instances occurring in his own experience. Sound surgical teachings demand that we should by all means remove the source of irritation, and surgical interference is to be made early whenever there is reason to suspect that any abdominal traumatism is giving rise to the trouble. Dr. Sims, in the last paper which he read before the Academy, had sounded the key-note of the correct treatment in these very halls.

To perfect himself in such procedures, Dr. Burchard said that he had practised to a considerable extent on dogs. The peritoneum is exceedingly tolerant of surgical interference if proper precautions are taken. During the past three years innumerable Tait's operations had been performed, and with very brilliant results. Tait himself had performed no less than forty laparotomies during commencing peritonitis, and all had recovered. In order to show the comparative impunity with which surgical procedures can be undertaken upon the peritoneum, he then quoted a large number of cases from various sources, and completed the list with the report of a case of his own. This was a case of omental abscess which he saw at Saratoga in consultation with the late Dr. F. D. Lente, and in which he performed laparotomy, with the recovery of the patient. Although distinct fluctuation was not obtained, the aspirator was resorted to, but failed to withdraw pus. An incision was then made in the median line from one inch below the ensiform cartilage to the umbilicus, with antiseptic precautions. Fully a gallon of warm carbolized water was injected among the matted intestines, and, iodoform having been lightly dusted over the walls of the abscess, two drainage-tubes were inserted. This case, with the others by different operators which he had collected, made 40 cases in all, with 24 recoveries, or 60 per cent. of recoveries in otherwise hopeless cases.

In contrast, Dr. Burchard reported a fatal case of ulceration of the vermiform appendix. He was called to see the case in consultation, and having made the diagnosis of perforation, advised immediate operation. At this time the condition of the patient was comparatively good, and the operation was refused. Twenty-four hours afterwards he was again called, and was now asked to operate; but by this time it was too late—the condition being hopeless—and a fatal result rapidly ensued.

In speaking of the medical treatment, he said he wished to call attention to special points which were the result of practical observation of the disease. While opium has been rightly considered our sheet-anchor in peritonitis, there are certain conditions in which it is requisite to use it with the greatest possible caution. One of these is the *initial* collapse of the disease, which has been too little studied, and which is a subject of very great importance. To illustrate, he related an instance in which it was very marked, a case of peritonitis resulting from an epididymitis. This collapse is dependent on a vaso-motor paresis, and, therefore, large doses of opium are likely to be extremely dangerous, though in small quantities it can be used with advantage.

The second point to which he directed attention is the perplexing discrepancy between the severity of the pain and the character of the pulse on the one hand, and the fulness of the heart on the other, sometimes met with; and when this is observed, he thought that no dose of opium should be given except in combination with digitalis, atropia, or ammonia, while auscultation of the heart should be frequently resorted to.

The third point is the complication of hypostatic pneumonia from carbonic acid gas poisoning. At this stage a slight overdose of morphia may put a stop to the respiratory function altogether, as there is imminent danger of respiratory failure. Here also small and infrequently repeated doses of morphia guarded with digitalis, atropia, or ammonia, are likely to prove of service.

As to the method of giving opium, he greatly preferred the hypodermic injection of morphia as being the most accurate and in every way satisfactory. In this connection, he related a case in which a patient had passed a hardened mass by the bowels which proved to be a collection of undissolved opium pills, containing enough opium to have killed her if it had all been absorbed. Yet these pills had been obtained at one of the most reliable druggists in the city of New York.

Atropia is unquestionably the one drug in which the most implicit confidence can be placed in the treatment of collapse, and it may be given in doses of from one-sixtieth to one-tenth of a grain, either alone, or in combination with morphia, alcohol, digitalis, or ammonia. There is no rule for the administration of morphia in peritonitis; each case must be a law to itself. Since adopting the hypodermic method of giving it, however, he had been surprised to find how comparatively small an amount is required in a great many cases. In some instances, however, enormous quantities of the drug are called for. In speaking of external applications, he said that poultices are only useful for their sedative effect on peripheral nerves, for the relief of spasm, and in aiding the absorption of inflammatory products, and unless they are required for these purposes had better not be applied, as they have no effect in controlling inflammation. The external application, which is by far the most efficient of all, is the iced-coil, and in this connection he exhibited what he said was the neatest and most convenient apparatus of the kind which he had seen, made by Codman and Shurtleff. The cold is directly efficient by causing reflex contraction of the bloodvessels, and it is also of much service in restoring tranquility. The most satisfactory food that can be employed is peptonized milk, to which additional cream can be added if desired. He spoke next of the treatment of tympanitis, and said that it can sometimes be relieved by the introduction of a vulcanized rubber tube into the intestines by the rectum. Pneumatic aspiration of the intestines is neither philosophical nor safe. Turpentine is to be condemned on account of its liability to increase the danger of the patient by its irritating effect upon the kidneys, and cases have been noted in which its use gave rise to albuminuria. Finally, he said, the successful treatment of peritonitis involves a personal devotion on the part of the medical attendant which comprehends a complete abnegation of self.

DR. A. L. LOOMIS agreed with the author that the first and most important point to be determined before resorting to any surgical procedure in peritonitis, is the finding out of exact cause. Personally, he is one of those who do not believe in such a thing as idiopathic peritonitis. There are three principal kinds of cases: first, the constitutional variety of the disease, which depends on blood-poisoning of some sort; second, cases which result from an extension of inflammation from some viscus to its peritoneal covering; and, third, those depending on ulceration of the intestines, with perforation and discharge into the peritoneal cavity, or upon the rupture of an abscess or cyst of some kind. So far as his experience went, Dr. Loomis said, he had yet to see a case of recovery where there was unquestionally the presence of gases from the intestines in the peritoneal cavity. This is one of the most certainly fatal causes of peritonitis; but it is often very difficult to determine just where the perforation has occurred. If there were the first signs of perforation, with evidences of peritonitis, in the right iliac fossa, it would be generally regarded as indicating ulceration of the vermiform appendix; but he had known the vermiform appendix to be crowded over to the median line, or even to the left of it. He, therefore, did not believe that the portion of the intestine involved can always be determined. If, however, the exact part and the starting-point of the peritonitis can be made out, he could heartily approve of all that had been said in the paper. If in the case of a recent distinguished surgeon of this city an early operation had been undertaken, he believed that there would have been a good prospect of his recovery. Surgeons, he thought, can sometimes learn something from physicians. In every case it behooves the medical attendant to watch his patient very closely, and be prepared for an operation at any moment. Some years ago he had a patient in Bellevue Hospital with a slowly developing peritonitis from an old inflammatory peritoneal band. He urged the late Dr. Erskine Mason to operate in the case, and he called a consultation of surgeons over it; but they all objected on the ground that they did not know where to find the obstruction, although it was certain to him that it was in the small intestine. The operation was not performed, and the patient died of peritonitis. At the autopsy an old cicatricial band was found which could have been parted with the knife without the slightest difficulty. He would, therefore, advise an early operation in such cases, and did not hesitate to say that if to-night he believed that he himself had ulceration of the vermiform appendix, he would seek out a surgeon who would promptly open the abdomen.

In regard to the medical treatment, he thoroughly believed in opium, though with restrictions. Dr. Burchard's points had been well taken, he thought, and he also considered the indiscriminate use of the drug in the early stages of the disease often highly dangerous. Long ago he had adopted the plan of guarding his first dose of opium with atropia. Afterwards it did not make so much difference.

DR. R. F. WEIR said that the arena of the abdominal cavity is that in which surgeons have been obtaining most activity during the last ten years. Dr. Loomis had touched the key-note when he said there is no such thing as idiopathic peritonitis. He would go further than the author of the paper, and say that no patient suffering from peritonitis should be allowed to die without an exploratory incision. Having remarked that there is no more reason for hesitating about operating than in strangulated hernia, he referred to the views of Mr. Frederick Treves, and said there is need of more early interference than had hitherto generally been made in the so-called perityphlitic abscesses. Perforation with collapse is the snag on which surgeons are apt to get caught. In a traumatic case they cannot tell whether this collapse is due to the entrance of gas into the peritoneal cavity, or results from hemorrhage. Here came in the value of exploratory incision, and in 94 exploratory incisions Tait had had only 3 deaths. After such an incision is made, it can be decided whether to proceed further or not, according to the condition of affairs discovered. In conclusion, he re-

marked that the operation in acute peritonitis dates further back than Mr. Treves had stated in his recent paper.

THE PRESIDENT said that the question was whether, in every case of perityphlitis, the operation is called for. All knew of cases in which the perityphlitis remained local, and the patient recovered. There were also other cases in which, although general peritonitis set in, the patients recovered; and, therefore, it is a question of great responsibility whether to operate or not. Very recently he had seen a boy of 15 who had all the signs of perityphlitis. Although the question of operation naturally presented itself, it was deemed advisable to wait, and the patient was treated with morphia, atropia, and plenty of ice. The peritonitis afterwards became general, but the symptoms were not very urgent. Again he hesitated to operate, because the general condition was such as to justify waiting a little longer, although it was certainly a very difficult question to decide. He had, however, seen a number of similar cases recover.

He had found that where a case of peritonitis became well developed rapidly, the patient had almost invariably had one or more previous attacks. He would be inclined to lay down the rule that when perforation and peritonitis set in very suddenly, and the trouble extends rapidly, the operation ought to be performed; but if the process is a slow one, it is advisable to wait.

DR. LOOMIS said that when the first sign of perforation occurs, is the time to operate.

THE PRESIDENT said that the first sign of perforation is often the first sign of any kind.

DR. LOOMIS said that he could not agree to this statement, and believed that when the first sign of perforation is noticed, the surgeon should, at all events, be prepared to operate. In the case before referred to by him, the autopsy showed that for the past two or three days the peritonitis had been local. As to the history of repeated attacks of peritonitis, he thought that if an operation had been performed in the first, there would not have been any return of the trouble.

DR. BURCHARD said that in six cases of typhlitis which he had seen ending fatally (in five of which he made autopsies), it was a fact that in every one of them there was a history of one or more preceding attacks. If he saw a patient in collapse or partial collapse, with a history of previous attacks of typhlitis, he would say that there was no perforation. The rapidity with which collapse develops also appears an indication as to whether there is perforation or not.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, May 18, 1885.

THE PRESIDENT, CHARLES A. LEALE, M.D., IN THE CHAIR.

DR. E. G. JANEWAY then presented

SPECIMENS OF ULCERATIVE ENDOCARDITIS AND OF ATRESIA OF THE LIVER.

The latter specimen was from the first of two additional cases to which he referred at the end of his paper on Abscess of the Liver, published in the *Transactions of the New York State Medical Association*. The origin of the trouble was probably the pressure of the elbow against the side in lifting a heavy stove and carrying it upon the shoulder. Three aspirations were resorted to, and a large quantity of chocolate-colored fluid, in which there were very few pus cells, withdrawn. Twenty-two ounces the first time, sixty-four ounces the second time, and eight ounces the third time. Afterwards the abscess burst through the lung, and an incision was made in the ninth intercostal space. The patient died from exhaustion, and during the latter part of life there was noticed some dulness over the upper part of the right lung, with bronchial breathing. At the autopsy there was found waxy degeneration of the liver, with some peripheral fatty degeneration also. There was an enormous abscess of the right lobe, the walls of which were very firm on account of the waxy character of the hepatic tissue. There was also found periœsophageal and peritracheal suppuration, together with localized empyema in the upper lobe of the right lung, and extensive ulceration of the large intestine.

DR. A. FLINT said he should like to ask Dr. Janeway whether he considered that the intestinal ulceration had any pathological connection with the abscess of the liver, and, if so, whether he was inclined to the opinion that in such cases the interstitial ulceration was consecutive to the hepatic abscess, or whether the association was merely one of coincidence.

DR. JANEWAY said there are two sets of cases in which intestinal ulceration is seen in connection with hepatic abscess. In the first, the cause of trouble is dysentery, or other similar disease; but when this is the case, there are generally multiple, though small, hepatic abscesses. In the second, as in the present instance, he believed that the ulceration of the large intestine is consecutive, and probably dependent on the depressed state of the general health and the presence of a septic process in the system. The condition is analogous to that in puerperal fever.

DR. HERMAN M. BIGGS, who has recently returned from Berlin, where he has been pursuing a course of studies under Dr. Koch, gave a

DEMONSTRATION OF THE THREE COMMA-BACILLI.

The resemblance of the comma-bacillus of sporadic cholera, as described by Finkler and Prior; of that of the mouth, as described by Lewis and Müller; and of that found in stale cheese by Denecke, to the true cholera comma-bacillus, he said, had given risè to much confusion. But similarity of morphological appearances did not constitute identity; identity of growth, culture, and function is essential. Because the English Cholera Commission did not recognize this, their work was practically without value; and even Klein admitted that he had found the comma-bacillus of Koch in greater or less number in all cases of cholera. Dr. Biggs then proceeded to point out the distinctions between the various kinds of comma-bacilli, and in speaking of the mouth bacillus, he stated that it took the followers of Koch four months to isolate it; but at last it was done by Prof. Müller. This was a matter of vital importance, for if the identity of the two had been proven, all of Koch's work would have become valueless. He exhibited cultures of the three comma-bacilli, and, in conclusion, remarked that in the mere matter of diagnosis, Koch had certainly made a very valuable contribution to our knowledge of cholera. The etiological

relation between the microbe and the disease was not at present proven. There was one point yet lacking in the demonstration of this, viz., the test of inoculation; and it was quite possible that this never would be established, since, as far as we are able to determine, there was probably no animal that was susceptible to cholera. The so-called inoculation of guinea-pigs by means of injections into the duodenum, as practised by Rietsch and Nicati, was unsatisfactory, and could not be accepted.

DR. A. FLINT, JR., exhibited, at the request of Dr. Wm. H. Greene, of Philadelphia, an

APPARATUS FOR DETERMINING THE PROPORTION OF UREA IN THE URINE.

(See page 597.)

A demonstration was then made, by the maker, of a

NEW CLOSED CIRCUIT "GRENET BATTERY" AND INCANDESCENT LAMP, WITH UNIVERSAL ILLUMINATORS FOR DARK CAVITIES.

Also the combined electric light and tongue depressor for laryngoscopic examinations, together with improvements on the Grenet battery. The presentation of the apparatus was prefaced by a few remarks from THE PRESIDENT, who said:

Two weeks ago, in the examination of one of the dark cavities of the body, he used for illuminating purposes the small incandescent electric lamp. It proved so satisfactory, and combined so many recent improvements, that it has been deemed worthy of a special notice and of presentation this evening to the Association. The Universal Illuminator is an electric lamp, attached by a ball-and-socket joint, either to a long or a short handle, not much thicker than an ordinary penholder, being so small that it may be passed through an opening in the thorax after collapse of the lung, and the removal of the pus in empyema, to illuminate all the surrounding parts. It may be used in the rectum or the vagina, and also after gastrotomy and cystotomy in searching for localized disease, or a hidden foreign substance. In the abdominal cavity it may be utilized in seeking for the source of a concealed hemorrhage or for an injury to a fixed and obscure part.

For the mouth, throat, nares, and larynx, a combined tongue depressor has been attached, which is easily held in the left hand, while the right is free to manipulate. The improvements on the Grenet battery are the gain in space by the use of square jars, the use of hard rubber caps replacing those of metal, and the increase of the exposed surface by the use of corrugated carbons.

NEWS ITEMS.

BALTIMORE.

(*From our Special Correspondent.*)

ISOLATION OF THE TEMPERATURE SENSE BY MEANS OF THE MURIATE OF COCAINE.—Some time ago DR. WILLIAM WARFIELD, of this city, an assistant in the Eye Department of the Baltimore Eye, Ear, and Throat Charity Hospital, observed in a patient undergoing a surgical operation (under the anæsthetic influence of cocaine) by Dr. Russel Murdoch, that while the sensibility of the cornea and conjunctiva was abolished, the impact of the instruments was felt as a distinctly *cold sensation*. Acting upon this hint, MR. H. H. DONALDSON, of the Johns Hopkins University, examined the eyes of two patients at the hospital with reference to this singular observation, and found that, when the eye was completely insensitive, a fine metal point, alternately heated and cooled in water—the temperature being 10° C. for the cold and 40° C. for the hot—when pressed against the conjunctiva and the patients directed to state their sensations, the answers were all correct; heat and cold being readily distinguished.

Struck with the original observation of Dr. Warfield, DR. JOHN N. MACKENZIE made a series of experiments with regard to the isolation of the temperature sense in the oropharyngeal cavities and nasal passages. Six patients were taken for the experiments. The uvula and soft palate, and afterwards the nasal passages, were first bathed in a four per cent. solution of the drug. When anæsthesia of the parts was complete, a silver probe, which had been previously immersed in a mixture of ice and salt, was carried over the parts previously rendered insensible to contact and pain, as tested in various ways. A distinct sensation of cold was in every instance complained of. The opposite extremity of the same probe was next heated over the Argand burner of a lamp used for laryngoscopic purposes, and in its heated condition made to impinge upon various spots in the anæsthetized area. While absolutely no pain was felt by any of those experimented upon, there was a marked unanimity of the answers, given voluntarily, in regard to the sensation of heat. In three of the cases, the application of the heated probe was followed by an eschar, and in one a pretty severe pharyngitis developed, yet at the time of application no pain was felt, though the temperature sense remained intact. It may be incidentally remarked, that none of the patients was aware of the purposes of the experiment or the previous preparation of the probe.

These observations are of considerable interest in view of the fact that, while recent physiological research has rendered it probable that the sensations of heat and cold are distinct from those of mere contact and pain, it has heretofore been impossible to demonstrate the fact by the complete isolation of the temperature sense. It is accordingly obvious that its separation from the other senses may open up in the future a fruitful field of physiological investigation.

MONTREAL.

(*From our Special Correspondent.*)

BOARD OF HEALTH AND SANITARY AFFAIRS.—The Health Department of this city has been in rather a demoralized condition of late. Owing to want of coöperation on the part of his Committee the Chairman of the Board of Health resigned; then the Medical Health Officer became unfit for his duties and retired. The vaccine furnished by the public vaccinator was found impure and unfit for use, so the whole stock of vaccine was destroyed. In addition to these misfortunes, it is found that all the lanes in the city after the winter's accumulation are in a horribly filthy state, and the public scavengers are making but the feeblest efforts to put them in a cleanly condition. The Mayor brought these

various matters up before the Common Council, who, after refusing to accept the Chairman of the Health Board's resignation, determined to make some effort to put the city in a proper sanitary condition before we are surprised by cholera.

A new medical health officer has been advertised for, salary $2500 a year.

A medical advisory board has been formed, consisting of a representative from each of the four medical schools (two English and two French), whose services are unpaid. The scavenging contract is also to be investigated, and the lanes to be immediately cleaned.

The salary of the medical officer of health is not sufficient to tempt a good man, who must be thoroughly acquainted with French and English; and but little work, I fancy, can be got our of our unpaid advisory board. However, the newly elected mayor seems determined to wake up the health department, and fulfil the promises made to his electors in spite of national and religious prejudice.

Since writing the above we are pleased to state that the Chairman of the Board of Health has withdrawn his resignation, and intends to get his Committee, as well as the city, into somewhat better shape.

New cases of smallpox are still of daily occurrence, and but little effort is being made to vaccinate the masses.

A fatal case of glanders in a young man occurred at the general hospital here last week.

SOCIETY MEETINGS.—The Wisconsin State Medical Society meets at Milwaukee on Tuesday, June 2d.

The Ohio State Medical Society holds its annual meeting at Dayton on Wednesday, June 2d. And the Ontario Medical Association meets at London on the same day.

MEDICAL AND CHIRURGICAL SOCIETY OF MARYLAND.—At its late meeting, the Faculty voted a change in the Constitution by the substitution of the word "person" for "gentleman" in the article relative to applications for membership. This change was made, as was explained by Dr. J. Edwin Michael, the mover of it, in order to have the way open to receive women practitioners, if otherwise eligible for membership.

UNIVERSITY OF THE CITY OF NEW YORK.—Dr. Lewis A. Stimson has been elected Professor of Anatomy in this institution, to succeed the late Professor Darling.

LYONS SOCIETY FOR THE PROTECTION OF CHILDREN.—This Society has offered prizes of gold medals, for the years 1886 and 1887, for the best paper on the following subjects:

1. The different methods of vaccination; the age at which vaccination is best performed; and the prejudices to be combated in reference to the operation.

2. The study upon the influence of occupation upon pregnancy in women, the progress of pregnancy, and the vitality and health of children.—*Gazette Médicale de Paris*, April 11, 1885.

THE ROYAL ACADEMY OF MEDICINE OF BELGIUM has submitted the following subjects for theses; the most meritorious of each of which will receive the prize indicated:

1. The determination by new experiments and applications the degree to which spectral analysis may be realized in the researches of forensic medicine and the medical police. Prize, $300. Closes April 1, 1886.

2. The experimental determination of the influence which desiccation exerts when employed as a means of conserving the simple vegetable medicaments. Prize, $120. Closes July 1, 1885.

3. The physiological effect of sanguineous depletion, either local or general; its indications and contraindications in the treatment of disease. Prize, $300. Closes December 31, 1885.

4. Description and critical review of the different methods of surgical dressing and of the antiseptic treatment of wounds and surgical affections. Prize, $120. Closes January 16, 1887.

5. The study of erysipelas, *charbonneux* or *rouget*, of swine, as relating to its causes, manifestations, lesions, prophylaxis, and treatment, and to establishing eventually its relations with carbuncular bacteridian or bacterian diseases. Prize, $120. Closes January 15, 1887.—*L'Union Médicale*, April 18, 1885.

NOTES AND QUERIES.

PENNSYLVANIA COLLEGE OF DENTAL SURGERY.

At a special meeting of the corporators of the Pennsylvania College of Dental Surgery, the following resolutions, presented by the Committee appointed to report them, were unanimously adopted:

Whereas, Following quickly the decease of our late worthy President, Dr. Samuel D. Gross, we are now called upon to mourn the death of our fellow member, Dr. Ellerslie Wallace;

Resolved, That, aware of the helpful, manly coöperation of Dr. Wallace in the work of dental advancement, the Pennsylvania College of Dental Surgery, of which he had long been a corporator, desires to express its respect for his memory and character;

Resolved, That we hereby tender to his family our sincere sympathy and condolence.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MAY 19 TO MAY 25, 1885.

DEWITT, CALVIN, *Captain and Assistant Surgeon.*—Ordered for duty at Newport Barracks, Kentucky.—*S. O. 107, Department of the East*, May 22, 1885.

DELOFFRE, A. A., *Captain and Assistant Surgeon.*—Relieved from duty at Fort Sissiton, Dakota Territory, and ordered to Fort Totten, Dakota Territory.—*S. O. 52, Department of Dakota*, May 14, 1885.

BRECKEMIN, LOUIS, *Captain and Assistant Surgeon.*—Ordered for temporary duty at Fort Omaha, Nebraska.—*S. O. 44, Department of the Platte*, May 18, 1885.

MUNDAY, BENJAMIN, *First Lieutenant and Assistant Surgeon.*—Relieved from duty at Fort Klamath, Oregon, and ordered to Fort Walla Walla, Wyoming Territory.—*S. O. 72, Department of Colorado*, May 12, 1885.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDING MAY 23, 1885.

MEAD, F. W., *Passed Assistant Surgeon.*—Detailed as member of Board for Physical Examination of candidates for appointment as cadets in the Revenue-Marine Service, May 18, 1885.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*